RECLAMATION

Managing Water in the West

Environmental Assessment

NCCWD Pacifica
Water Recycling Project

U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region

February 2010

Environmental Assessment

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A. INTRODUCTION

The NCCWD's Water Recycling Project (WRP) will provide tertiary treated wastewater that meets the California Department of Health Services standards for the production and use of recycled water (Title 22 standards) from the City of Pacifica's Calera Creek Water Recycling Plant (CCWRP) to irrigation sites within the City of Pacifica. The CCWRP has been producing tertiary treated wastewater since 2000. The regional location is shown in Figure II-1 and the location of project features, including the CCWRP, is shown in Figure II-2.

In 2004, the North Coast County Water District (NCCWD) as the Lead Agency under the California Environmental Quality Act (CEQA) prepared a Draft Initial Study/Mitigated Negative Declaration (WRP IS/MND) for the project. A Final Initial Study/Reponses to Comments was adopted in November 2004 with Conditions of Approval by the NCCWD (State Clearinghouse No.2004042138). The NCCWD has not started construction on any elements of the project. The WRP studied in the 2004 IS/MND included a pipeline routed from the CCWRP to a storage tank in Sharp Park, a primary distribution pipeline, and a pump station including chemical and electrical buildings at the CCWRP. The WRP IS/MND also analyzed the effects of using the recycled water at various locations within the City of Pacifica.

Following adoption of the WRP IS/MND, and in response to public concerns over the location of a recycled water storage tank within Sharp Park, the NCCWD decided to pursue an alternative location for the tank site. The NCCWD had identified two alternative locations for the tank: one on their property on Gypsy Hill and the other at the CCWRP site where the recycled water originates. Based upon a Supplemental Initial Study/Mitigated Negative Declaration (SIS/MND) prepared in 2007, and economic considerations, the NCCWD Board of Directors (as Lead Agency) selected the Gypsy Hill location for the water tank.

The NCCWD has applied for funds under Title XVI of the American Recovery and Reinvestment Act (ARRA) from the U. S. Bureau of Reclamation (Reclamation) to assist with the construction of the WRP. Title XVI provides authority for Reclamation's water recycling and reuse program. The Title XVI program is focused on identifying and investigating opportunities to reclaim and reuse wastewaters and naturally impaired ground and surface water in the 17 Western States and Hawaii. Title XVI is budgeted for by Reclamation's regional offices and includes funding for planning studies and the construction of water recycling projects, on a project specific basis, in partnership with local governmental entities.

Reclamation is the Federal Lead Agency for the action. This Environmental Assessment (EA) was prepared to fulfill obligations of Reclamation under the National Environmental Policy Act (NEPA) and its implementing regulations published by the Council on Environmental Quality (40 CFR 1500-1508).

B. PURPOSE AND NEED

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. Reclamation proposes to provide Federal funds to share in the cost of the project through the American Recovery and Reinvestment Act (P.L. 111-5) and through the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992 (Title XVI of Public Law 102-575). Title XVI authorizes Federal cost-sharing in approved water reuse projects up to 25 percent of the total eligible project costs for any water recycling project.

This EA has been developed to provide the public and responsible and trustee agencies reviewing the WRP an analysis of the potential effects, both beneficial and adverse, on the local and regional environment associated with construction and operation of the WRP. The basic purpose of the WRP is to provide recycled water for urban and environmental uses and to promote the expanded beneficial use of recycled water system in the Pacifica area. Implementation of the WRP would include construction of a pump station at the CCWRP, construction of distribution pipelines, and construction of a water storage tank for use in compliance with Article 4 in Title 22 of the California Code of Regulations, which sets water quality standards and treatment reliability criteria for recycled water.

The WRP is a cooperative program in the Pacifica area that supports sustainability and environmental enhancement by expanding the use of recycled water. The purpose of the project is to replace valuable potable water now being used for irrigation purposes with recycled water from the CCWRP in order to preserve the potable water supply for potable only uses. The Water District is responsible for the delivery of water to the approximately 40,000 residents of the City of Pacifica as well as commercial and institutional customers in Pacifica and nearby San Bruno, pursuant to the California Water Code. The great majority of the Water District's water (98%+) is purchased from the San Francisco Public Utilities Commission (SFPUC), which operates a regional wholesale water supply system. With the continuing population growth in California and the experience of water shortages in the drought years of 1987 through 1992, the State Legislature has formally recognized the importance of utilizing recycled water (tertiary treated water from a sewage treatment plant, also known as "non-potable") to help meet the State's water supply needs. In fact, the legislature has established a goal of recycling one million cubic feet of water annually by 2010 and has prohibited the use of potable water for landscape irrigation wherever suitable recycled water is available at a reasonable cost.

In response to these legislative mandates and to the recognized capacity limitation of the San Francisco water supply system as now configured, both the Water District and the SFPUC have investigated alternative water sources, including recycled water. The CCWRP in Pacifica produces treated effluent that meets the Department of Health's requirements for landscape irrigation, and this effluent is currently discharged to an created wetland area along Calera Creek, just adjacent to the CCWRP facility. A Program EIR was prepared and certified for the CCWRP Facility in 1994. The currently proposed recycling water project, for which this environmental document is being prepared, was contemplated in this. Thus, this current document is the project-level report that provides specific analysis for aspects of the project that were analyzed at the program level.

C. PROJECT BACKGROUND

The proposed Water Recycling Project (WRP) will provide treated water from the City of Pacifica's CCWRP to irrigation sites within the City of Pacifica. The Water District prepared a Conceptual Water Recycling Plan in 1997 to determine the potential demand for recycled water in the community and what type of infrastructure would be needed to deliver the recycled water to these potential users. The total annual irrigation demand for recycled water in the Water District is estimated to be about 170 acre feet. The Sharp Park Golf Course, which is within the Pacifica City Limits but owned and operated by the City and County of San Francisco's Recreation and Parks Department) is by far the largest potential recycled water customer, and is expected to use approximately 78% of the 170 acre feet. Other significant users of irrigation water include parks, schools, and by the California Department of Transportation (CalTrans) for landscaping along Highway 1.

In 2001, the Water District prepared a report entitled "A Water Recycling Plan for Pacifica" (Kennedy Jenks Consultants, August 2001). Much of the background information contained in this project description is from either this report or the Conceptual Water Recycling Plan (1997).

In 2004, the North Coast County Water District (NCCWD) prepared a Draft Initial Study/Mitigated Negative Declaration (WRP IS/MND) for the project. A Final Initial Study/Reponses to Comments was adopted in November 2004 with Conditions of Approval by the NCCWD (State Clearinghouse No.2004042138). The NCCWD has not started construction on any elements of the project. The WRP studied in the 2004 IS/MND included a pipeline routed from the CCWRP to a storage tank in Sharp Park, a primary distribution pipeline, and a pump station including chemical and electrical buildings at the CCWRP. This WRP IS/MND also analyzed the effects of using the water at various locations within the City of Pacifica.

Following adoption of the WRP IS/MND, the NCCWD determined that the proposed location of the water storage tank located at the City of San Francisco's Sharp Park was not practical for various reasons. In 2006, two alternative locations for the tank were proposed: one on NCCWD property on Gypsy Hill and the other at the Calera Creek Water Recycling Plant (CCWRP) where the recycled water originates. In 2007 a Supplemental Initial Study/Mitigated Negative Declaration was prepared for two alternative water tank sites. In 2008, the NCCWD Board of Directors selected the Gypsy Hill location as the site for the water storage tank.

D. DOCUMENT FORMAT

The document consists of three parts. Chapters 1 and 2 provide background information and describe the project alternatives. Chapters 3 and 4 comprise the NEPA environmental assessment and draft finding of no significant impact. Chapter 5 includes the references, list of preparers, and list of agencies contacted for the EA. Chapter 6 contains the correspondence received to date on the proposed action. The Appendices follow Chapter 6.

II. Alternatives

There are two alternatives considered for the WRP in this EA, the NCCWD's approved project and the No Action alternative. Three alternative tank locations were put forward for detailed analysis in the IS/MND, SIS/MND, however, the NCCWD determined that based on environmental impacts and cost, the storage tank would be constructed at the Gypsy Hill location.

A. NO ACTION ALTERNATIVE

Under the No Action alternative Reclamation would not provide funding for the WRP. According to the NCCWD, without the funding provided by the American Recovery and Reinvestment Act, the project could be delayed for better than ten years unless there was some other source of supporting grants/funds. In addition, if the project is delayed due to lack of funding, the NCCWD agreement with the City of Pacifica could expire at which point the use of the recycled water source would have to be renegotiated.

B. PROPOSED ACTION

The WRP will supply recycled water to the central portion of the City of Pacifica. The recycled water will come from the CCWRP. As stated in Chapter 1, an IS/MND was adopted for the Project in 2004, (hereinafter known at the WRP IS/MND), and a Supplemental Initial Study/MND was adopted in 2007 for the alternative storage tank locations (hereinafter known as the WRP SIS/MND). In 2008, based on the SIS/MND, and project costs, the NCCWD approved the water storage tank location at Gypsy Hill. Therefore, the proposed action described herein only includes the Gypsy Hill tank location. In addition, since the Reclamation funds will not be used to construct any elements of the project that relate to providing water to the Sharp Park Golf Course, that aspect of the project is not analyzed in this EA.

1. LOCATION AND SETTING

Pacifica is located on the Pacific coast side of the San Francisco Peninsula; three miles south of San Francisco in San Mateo County (see Figure II-1. Regional Location). The City is framed by the ridges of the Coast Range on the east and the Pacific Ocean on the west. The City comprises a combination of secluded valleys and open hillsides set against a coastline of long beaches and rugged headlands. The geographically distinct portions of Pacifica are linked by two major transportation corridors, State Highway 1 and Sharp Park Boulevard. Highway 1 is also the through corridor between San Francisco and Half Moon Bay. Sharp Park Boulevard's name changes to Westborough Boulevard at the eastern end of the City Limits. Westborough Boulevard thus connects Sharp Park Boulevard to Interstate 280 and also links the city with other portions of the San Francisco Peninsula to the east. Land use in the Pacifica area is primarily low-density residential and open space. There are few commercial uses and no major industries. Major portions of the City are devoted to public recreation such as the Milagra Ridge and Mori Point Recreation Areas, administered by the Golden Gate National Recreation Area (GGNRA), several City and State beaches, San Pedro County Park, Promenade Park, and the Sharp Park Golf Course.

Calera Creek Water Recycling Plant (CCWRP)

The City of Pacifica's CCWRP is located on a hillside south of Mori Point Ridge, west of Highway 1 and is accessed via Highway 1 and Reina del Mar Avenue. The plant utilizes a Sequential Batch Reactor (SBR) because the process is mechanically simple and effectively allows a high-quality effluent to be produced with a minimum number of steps. No primary

sedimentation or chemical additions are necessary to reduce the biochemical oxygen demand (BOD), solids, and nitrogen to levels which would permit multiple discharge and options. The process also lends itself to environmental controls for noise and odor. The "batch" process differs from the continuous flow activated sludge processes in that the water is treated in "batches" as a tank is filled, aerated and the sludge allowed to settle, at which point the clear liquid is decanted, and the tank is re-filled.

The plant was designed with enough process redundancy and backup storage to adequately treat high winter flows and prevent inadequately treated sewage from being discharged in the event of a plant malfunction. The plant has 4 reactor tanks with a capacity of 1.6 million gallons each, two sludge digesters, and equalization storage of about 5 million gallons.

The plant also has a tertiary sand filtration system for additional clarification and disinfects the effluent with ultraviolet light. The treated wastewater is a fully treated Title 22 effluent suitable for unlimited reuse as landscape irrigation water, without limitations of human contact. In Spring 2004, the SFPUC, NCCWD's wholesale supplier of potable water, changed its disinfectant agent from chlorine to chloramine. The chloramines are destroyed during the wastewater treatment process at CCWRP (John Rayner, pers. comm.).

The treated wastewater is discharged into Calera Creek just south of the CCWRP. The degraded wetland that existed there prior to CCWRP construction has been reconstructed and now supports a combination of riparian, freshwater marsh and pond habitats with greater value to wildlife. The pond habitat was specifically designed to support red-legged frog and Pacific tree frog populations which serve as prey for the San Francisco garter snake.

2. PROJECT FEATURES

The proposed WRP project will serve the central portion of the City of Pacifica. Recycled water customers will include the Sharp Park Beach Boulevard Promenade, Fairway Park (baseball diamonds), Highway 1 landscaping (CalTrans median) between Sharp Park and Paloma Avenue, Oceana High School and Ingrid B. Lacy Middle School. Elements of this phase include: booster pumping facilities at the CCWRP, construction of a new 400,000 gallon recycled water above-ground storage tank at Gypsy Hill, and approximately 17,000 linear feet of reclaimed water transmission and distribution pipelines.

Staging areas for construction will be located in areas acceptable to the NCCWD and the City of Pacifica. The staging areas for construction materials and equipment will be located near the project site. All open pipeline trenches will be covered with metal plates at the end of each day.

Recycled Water Pump Station

The Recycled Water Pump Station will be located adjacent to the existing filter structure at the CCWRP (Photo 1), on the south east side of the structure (see Figure II-2). The pump station includes two approximately 700 gallon-per-minute pumps. This equipment will occupy an area of 234 square feet (18 feet long by 13 feet wide) (see Figure II-3).

The pump station site also includes a chemical building and an electrical building. The chemical building will contain facilities to feed a sodium hypochlorite solution, which is a disinfectant, into the recycled water and the electrical building will house electrical equipment for the control and operation of the pumping facilities. The chemical and electrical buildings are each about 100 square feet in size.

Water Tank Location

The above-ground recycled water storage tank will be located on the same property as the NCCWD's 3MG Gypsy Hill potable water tank (Photos 2 and 3). This site is off of Gypsy Hill Road (APN 016-460-030) (Figure II-2 and Figure II-7). As with the potable water tank, the recycled water tank will be circular and will be made of welded steel on a concrete foundation. It will be approximately 28 feet high by 55 feet in diameter with a capacity of 400,000 gallons. This tank will be considerably smaller than the existing potable water tank (Photo 2) and will be located in the area shown on Photo 3. A maximum of five new emergency lights will be at the water tank site; this lighting will be manually controlled (as opposed to motion-sensitive).

Pipelines

The recycled water tank will tie into the primary distribution pipeline at the CCWRP. The distribution pipeline route has not changed from the route proposed in the WRP IS/MND. It will begin at the CCWRP, then go north and then east out to Highway 1, then north on the west side of Highway 1 to Bradford Way, then to Francisco Boulevard, Oceana Boulevard and Clarendon Road (See Figure II-2). The pipeline will be connected to the new pump station, described below. As listed and analyzed in the WRP IS/MND, the pipeline installation trench will either be backfilled or plated in traffic areas at the close of each workday to minimize disruption to vehicular and pedestrian traffic during construction.

A tank feed pipeline will be required to connect the Gypsy Hill tank with the primary distribution pipeline. This tank feed pipeline will be installed in street and highway rights-of-way and in the NCCWD right-of-way to Gypsy Hill (shown in Figure II-2). The tank feed pipeline will connect to the distribution pipeline at Clarendon Road then will traverse a section of open space land from the eastern end of Clarendon Road to Gypsy Hill. As listed and analyzed in 2004, the pipeline will be designed to enable flow in both directions and water from the storage tank to the irrigation sites will also travel through this pipeline. From Clarendon Road to the Gypsy Hill site, the pipeline will run parallel to the NCCWD's existing potable water pipeline and will share that easement. To maintain proper spacing between recycled and potable pipelines the existing potable water pipeline will be replaced as part of the project requiring trenching to replace the potable water pipeline. Both pipelines will likely be either high density polyethylene PVC or ductile iron, the same materials as those analyzed in the WRP IS/MND. The tank feed pipeline to Gypsy Hill and replacement of the existing potable water pipeline is expected to require an additional 10 foot wide temporary construction easement on each side of NCCWD's foot wide permanent easement, for a total of 30 feet. Appropriate methods will be taken to work with the resident(s) adjacent to the existing pipeline easement to minimize disturbance related to the construction of this pipeline. Once construction is completed, all construction areas will be revegetated and erosion control planting will be added as necessary.

Recycled Water User Retrofits

In addition to the Sharp Park Golf Course (which is not subject to Reclamation funding and is not described here), five additional sites within the City of Pacifica will receive recycled water for irrigation. Retrofits are necessary to separate the existing irrigation systems from the potable water system. Trenching equipment and manual labor will be used to retrofit the existing irrigation systems for recycled water. Construction will require equipment such as backhoes and small trenching machines to excavate areas for replacement of pipes, meters, and valves. The five sites are described below:

Promenade Park. This is a City of Pacific public park located between Beach Boulevard and the Pacific Ocean. There are approximately 3.5 acres of irrigated terrain at the site; with an annual potable water consumption of 1.2 million gallons (MG). Site work will include

installation/removal of meters, valves and short lengths of new pipe to separate the park's irrigation system from the potable water system. Only minor piping changes will be needed to retrofit the existing irrigation system for recycled water. Existing sprinklers will be reconfigured where needed to minimize spray drift.

Fairway Park. This City of Pacifica public park includes three baseball diamonds and is located on Cindy Way. There are approximately 5 acres of irrigated terrain at the site, which will be converted to recycled water with an estimated annual consumption of 1.2 MG. Site work will include installation or removal of meters, valves, and short lengths or new pipe to separate the park's irrigation system from the potable water system. Approximately 275 feet of recycled water pipeline will need to be installed through the park to retrofit the existing irrigation system for recycled water.

Ingrid B. Lacy Middle School. This public middle school is located on Bella Vista Avenue. There are approximately 6 acres of irrigated terrain at the site, which will be converted to recycled water with an estimated annual demand of 4.2 MG. Irrigated areas include athletic fields and landscaped areas. Site work will include installation or removal of meters, valves and short lengths of new pipe to separate the school's irrigation system from the potable water system. Approximately 400 feet of recycled water pipeline will need to be installed on school property to retrofit the existing irrigation system for recycled water.

Oceana High School. This public high school is located on Paloma Avenue. There are approximately 20 acres of irrigated terrain at the site, which will be converted to recycled water with an estimated annual demand of 6.4 MG. Areas to be irrigated include athletic fields and landscaped areas. Site work will include installation or removal of meters, valves and short lengths of new pipe to separate the school's irrigation system from the potable water system. Less than 100 feet of recycled water pipeline will need to be installed on school property to retrofit the existing irrigation system for recycled water.

State Highway 1 Landscaping. Caltrans has approximately 3 acres of landscaping along State Highway 1 between Sharp Park Road and Paloma Avenue. The current irrigation system is inoperable. The proposed action will provide five recycled water service laterals for future connections when the irrigation systems are reconditioned. The site has the potential to use 1.4 MG of recycled water per year.

3. BEST MANAGEMENT PRACTICES OR MITIGATION MEASURES INCORPORATED INTO THE PROJECT

The following measures are incorporated into the project, either as part of the approved WRP SIS/MND, WRP IS/MND, the program EIR prepared for the City of Pacifica Waste Water Facilities Plan (PWWFP EIR) for the CCWRP tank site (1994), or as standard Best Management Practices (BMPs)/construction protocols for construction and operations at the CCWRP. These measures will continue to apply to all aspects of the project, and with the Mitigation, Monitoring and Reporting Plan (MMRP) will be included in the Conditions of Approval for the Project. In addition, relevant regulatory agencies, including the City of Pacifica, have BMPs to avoid or reduce both construction and operation-related impacts. These measures are described below.

Aesthetics

No BMPs, WRP IS/MND Mitigation Measures or PWWFP Plan EIR Mitigation Measures are applicable to the alternative water tank sites presented in this IS/SMND. No new aesthetic impacts from visual or odor issues exceeding established CEQA thresholds will occur as a result of the changes in the Project Description. The CCWRP alternative tank locations place

the tank among existing facilities at the Plant and the facilities are visually separated from Highway 1 by a large berm. Recreationalists along the quarry bike path will not be able to see the tank sites. The tank site at Gypsy Hill is surrounded by tall eucalyptus trees and the site's topography blocks this site from motorists along Sharp Park Road and residents in the area viewing it.

Air Quality

Standard Bay Area Air Quality Management District (BAAQMD) BMPs for construction sites were included in the WRP IS/MND, and will be implemented in this project to ensure that the construction-related emissions of particulate material do not exceed established CEQA or agency thresholds.

Applicable Best Management Practices include:

- Water all active construction areas at least twice daily and more often during windy periods and less often during rainy periods.
- Cover all trucks hauling soil, sand and other loose materials and require all trucks to maintain at least two feet of freeboard.
- Pave, apply water twice daily and less often during rainy periods, or apply non- toxic soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep all paved access roads, parking areas and staging areas at construction sites daily with water sweepers.
- Sweep streets daily if visible soil material is carried onto adjacent public streets. Use water sweepers.

Biology

No BMPs or PWWFP EIR Mitigation Measures are applicable. Applicable WRP IS/MND Mitigation Measures are as follows:

- Implement take avoidance measures for California Red-legged frog (CRLF) (Rana aurora draytonii).
- Conduct preconstruction surveys for nesting birds.
- Conduct preconstruction surveys for San Francisco dusky-footed woodrat.
- Maintain special status species habitat and develop a monitoring plan.

The WRP SIS/MND identified potential impacts to biological resources, and included the following mitigation measures which are incorporated into the project.

Impact BIO-1 (Gypsy Hill Pipeline Route and Tank Site): Potential nesting trees for raptor and passerine species occur within and adjacent to the pipeline segment from Clarendon Road to Gypsy Hill and at the Gypsy Hill tank site. These birds could be adversely affected if construction occurs during nesting season (February 1through August 31 of any given year).

Mitigation Measure BIO-1: If construction activities along the Clarendon Road to Gypsy Hill pipeline segment or at the Gypsy Hill tank site cannot occur outside of the nesting season (February 1 through August 31 of any given year), the NCCWD shall retain a qualified biologist to conduct a pre-construction survey for nesting birds not more than 14 days prior to

the start of construction activities. Surveys shall be conducted within the trees that have potential habitat (those that are located within 250 feet of the pipeline segment and at the Gypsy Hill tank site). If nesting birds are found, the project could be delayed until after nesting is completed. Work may occur if an adequate buffer, as determined by a qualified biologist in consultation with California Department of Fish and Game (CDFG), can be established between the construction activity and the nest. Typically CDFG requires a 50 foot buffer for passerine nests and a 250 foot buffer for raptor nests.

Effectiveness:	Implementation of this measure will ensure that significant adverse impacts to nesting birds do not occur
Implementation:	NCCWD shall contract with qualified biologist
Timing:	Prior to and during construction
Monitoring:	The qualified biologist shall provide a report of monitoring results to the NCCWD

Impact BIO-2 (Gypsy Hill Pipeline Route and Tank Site): The San Francisco dusky-footed woodrat habitat exists within this corridor. If San Francisco dusky-footed woodrat nests are within 250 feet of the project site, construction activities may adversely affect this species.

Mitigation Measure BIO-2: A preconstruction survey for woodrat nests shall be conducted by a qualified biologist. If nests are found within 250 feet of the project site, the biologist shall determine if the nest is active and consult CDFG to determine the currently approved measures to avoid disturbance or relocate an active nest. The contractor for the NCCWD shall implement the recommendations of the biologist.

Effectiveness:	Implementation of this measure will ensure that significant adverse impacts to San Francisco dusky-footed woodrats do not occur
Implementation:	NCCWD shall contract with a qualified biologist
Timing:	Prior to and during construction
Monitoring:	NCCWD; the qualified biologist shall provide a report of monitoring results to the NCCWD

Cultural Resources

The WRP SIS/MND identified potential impacts to cultural resources, and included the following mitigation measures which are incorporated into the project.

Impact CUL-1: Construction of the proposed project could reveal as yet unknown prehistoric or historic archaeological resources along the Gypsy Hill pipeline route, at the Gypsy Hill tank site, or at the CCWRP tank site.

Mitigation Measure CUL-1: Prior to the initiation of construction or ground-disturbing activities, the NCCWD Project Manager shall conduct a tailgate meeting to inform all construction personnel of the potential for exposing subsurface cultural resources and to recognize possible buried cultural resources.

Personnel shall be informed of the procedures that will be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains and their treatment.

Effectiveness:	Implementation of this measure will ensure that significant adverse impacts to cultural resources do not occur.
Implementation:	NCCWD
Timing:	During a pre-construction field meeting with contractors
Monitoring:	NCCWD, sign-off in the Mitigation Monitoring and Reporting plan once the meeting has been conducted

Mitigation Measure CUL-2: Construction documents shall contain a "stop work provision" stating that upon discovery of possible buried prehistoric and historic cultural materials (including potential Native American skeletal remains)[1], work within 10 meters (30 feet) of the find shall be halted and the NCCWD Project Manager shall be notified.

The Project Manager shall then retain a qualified archaeologist to review and evaluate the find. Construction work shall not begin again until the archaeological or cultural resources consultant has been allowed to examine the cultural materials, assess their significance, and offer proposals for any additional exploratory measures deemed necessary for the further evaluation of, and/or mitigation of adverse impacts to, any potential historical resources or unique archaeological resources that have been exposed.

If the discovery is determined to be a unique archaeological or historical resource, and if avoidance of the resource is not possible, the archaeologist shall inform the Project Manager of the necessary plans for treatment of the find(s) and mitigation of impacts. The treatment plan shall be designed to result in the extraction of sufficient non-redundant archaeological data to address important regional research considerations. The Project Manager shall insure that the treatment program is completed. The work shall be performed by the archaeologist, and shall result in a detailed technical report that shall be filed with the California Historical Resources Information System, Northwest Information Center, CSU Rohnert Park. Construction in the immediate vicinity of the find shall not recommence until treatment has been completed.

If human remains are discovered, they shall be handled in accordance with State law including immediate notification of the County Medical Examiner/Coroner.

In addition, the contract documents shall recognize the need to implement any mitigation conditions required by to comply with Section 106 regulations. In general, the appropriate

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1 Significant prehistoric cultural resources may include:

a. Human bone – either isolated or intact burials
b. Habitation (occupation or ceremonial structures as interpreted from rock rings/features, distinct ground depressions, differences in compaction (e.g., house floors)
c. Artifacts including chipped stone objects such as projectile points and bifaces; groundstone artifacts such as manos, metates, mortars, pestles, grinding stones, pitted hammerstones; and shell and bone artifacts including ornaments and beads.
d. Various features and samples including hearths (fire-cracked rock; baked and vitrified clay), artifact caches, faunal and shellfish remains (which permit dietary reconstruction), distinctive changes in soil stratigraphy indicative of prehistoric activities.
e. Isolated artifacts

Historic cultural materials may include finds from the late 19th through early 20th centuries. Objects and features associated with the historic period can include:

a. Structural remains or portions of foundations (bricks, cobbles/boulders, stacked fieldstone, postholes, etc.).
b. Trash pits, privies, wells and associated artifacts
c. Isolated artifacts or isolated clusters of manufactured artifacts (e.g., glass bottles, metal cans, manufactured wood items, etc.
d. Human remains

In addition, cultural materials including both artifacts and structures that can be attributed to Hispanic, Asian, and other ethnic or racial groups are potentially significant. Such features or clusters of artifacts and samples include remains of structures, trash pits, and privies.

construction conditions should be included within the General Conditions section of any contract that has the potential for ground disturbing operations.

Effectiveness: Implementation of monitoring during construction will prevent significant impacts by halting construction before damage is done and allowing the resources to be documented

Implementation: NCCWD shall include this measure in project plans and specifications. This measure shall be incorporated into building permit plans and construction contracts; NCCWD shall implement these measures

Timing: Measures shall be in evidence in project plans prior to issuance of the Coastal Development Permit. Actual monitoring shall occur during ground disturbing activities.

Monitoring: NCCWD by inclusion in project plans and construction documents; the archaeological monitor shall provide a report of monitoring results to the NCCWD

Mitigation Measure CUL-3: Archaeological monitoring on a full-time basis shall be undertaken during subsurface construction near the Sharp Park Golf Course area (for the distribution pipeline alignment), and other sites, as listed by the National Historic Preservation Act Section 106 Compliance Report currently being prepared for this project.

Actions that potentially require monitoring are any ground disturbing activities including, but not limited to, pipeline installation and construction staging areas.

Effectiveness: Implementation of monitoring during construction will prevent significant impacts by halting construction before damage is done and allowing the resources to be documented.

Implementation: NCCWD shall include this measure in project plans and specifications. This measure shall be incorporated into building permit plans and construction contracts; NCCWD shall implement these measures.

Timing: During any subsurface construction activities as designated by the National Historic Preservation Act Section 106 Compliance Report

Monitoring: NCCWD; the archaeological monitor shall provide a report of monitoring results to the NCCWD

Impacts to cultural resources will be reduced to a less-than-significant level with the implementation of the above mentioned mitigation measures.

Geology and Soils

No BMPs or PWWFP EIR Mitigation Measures are applicable to the CCWRP tank site. Applicable mitigation from the WRP IS/MND requires the preparation of geotechnical reports. This mitigation was updated in the WRP SIS/MND to include the preparation of a complete geotechnical report for the CCWRP site, and the Gypsy Hill Tank site and tank feed pipeline. The recommendations in these reports, including measures to reduce the effects from a large seismic event and slope failure during the construction, will be incorporated into the project plans and specifications. Such measures may include, but are not limited to, making sure that the foundations and construction of all facilities are built to the Uniform Building Codes; ensuring that finished slopes are not more than 3:1, and compacting slope soils adjacent to facilities to 95%, or planting the finished grade with shrubs and trees native to the site that are chosen based on slope binding characteristics, such as having strong lateral roots and being fairly fast growing.

Hazards, Hazardous Materials, Public Health and Safety

Fueling for vehicles used in the project construction will be subject to standard construction Best Management Practices (BMPs) as specified in the "Blueprint for a Clean Bay" (Bay Area Stormwater Management Agencies Association [BASMAA]). While it is recognized that any stormwater runoff will not enter the San Francisco Bay, relevant BMPs from that publication are listed here. Also listed here are General Construction and Site Supervision BMPs (published by the San Mateo Countywide Stormwater Pollution Prevention Program [STOPPP]. Implementation of these BMPs and others that local contractors commonly use will avoid impacts related to upset of hazardous waste or reduce potential impacts from upset of hazardous waste to less than significant levels.

Planning BMPs

- Schedule excavation and grading activities for dry weather periods.
- Locate and protect storm drains in the vicinity of the site with berms or filters during wet weather periods. Make sure all subcontractors are aware of the locations of the storm drains to prevent pollutants from entering them.
- Control the amount of runoff crossing the site (especially during excavation) by using berms or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by constructing temporary check dams or berms where appropriate.
- Train employees and subcontractors in using best management practices.

Good Housekeeping Practices

- Keep all liquid paint products and wastes away from the gutter, street, and storm drains.
- Designate one completely contained area for auto parking, vehicle refueling, and routine equipment maintenance. The designated area should be well away from streams or storm drain inlets, and bermed if necessary. Make major repairs and wash vehicles at an appropriate off site facility.
- Keep materials out of the rain – prevent runoff contamination at the source. Cover exposed piles of soil or construction materials with plastic sheeting or temporary roofs.
- Keep pollutants off exposed surfaces. Place trashcans and recycling receptacles around the site to minimize litter.
- Dry sweep paved surfaces that drain to storm drains, creeks, or channels. If pavement flushing is necessary, use silt ponds or other techniques to trap sediment and other pollutants.
- Clean up leaks, drips and other spills immediately so they do not contaminate soil or groundwater or leave residue on paved surfaces. Use dry cleanup methods whenever possible. If you must use water, use just enough to keep the dust down.
- Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. A plastic liner is recommended to prevent leakage of liquids. Never clean out a dumpster by hosing it down on the construction site.
- Make sure portable toilets are maintained in good working order by the leasing company and that wastes are disposed of properly. Check toilets frequently for leaks.

Materials/waste Handling BMPs

- Use recyclable materials whenever possible. Arrange for pick-up of recyclable materials such as concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rock, and vehicle maintenance materials such as used oil, antifreeze, batteries and tires.
- Dispose of all wastes and demolition debris properly. Many construction materials can be recycled. Materials and debris that cannot be recycled must be taken to an appropriate landfill or disposed of as hazardous waste. Never bury waste materials or leave them in the street or near a creek or stream bed.

Hydrology

The SMP IS/MND listed applicable BMPs that are incorporated by reference into this document. Because the project disturbs more than 1 acre of ground, the project is required to obtain a permit for stormwater discharges from the Regional Water Quality Control Board. The permit requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that includes the implementation of BMPs to protect water quality. In addition, the following Standard Operational BMPs apply:

- Locate and protect storm drains in the vicinity of the site with berms or filters during wet weather periods. Make sure all subcontractors are aware of the locations of the storm drains to prevent pollutants from entering them.
- Control the amount of runoff crossing the site (especially during excavation) by using berms or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by constructing temporary check dams or berms where appropriate.
- Train employees and subcontractors in using best management practices.
- Keep all liquid paint products and wastes away from the gutter, street, and storm drains.
- Designate one completely contained area for auto parking, vehicle refueling, and routine equipment maintenance. The designated area should be well away from streams or storm drain inlets, and bermed if necessary. Make major repairs and wash vehicles at an appropriate off site facility.
- Keep materials out of the rain – prevent runoff contamination at the source. Cover exposed piles of soil or construction materials with plastic sheeting or temporary roofs.
- Keep pollutants off exposed surfaces. Place trashcans and recycling receptacles around the site to minimize litter.
- Dry sweep paved surfaces that drain to storm drains, creeks, or channels. If pavement flushing is necessary, use silt ponds or other techniques to trap sediment and other pollutants.
- Clean up leaks, drips and other spills immediately so they do not contaminate soil or groundwater or leave residue on paved surfaces. Use dry cleanup methods whenever possible. If you must use water, use just enough to keep the dust down.
- Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. A plastic liner is recommended to prevent leakage of liquids. Never clean out a dumpster by hosing it down on the construction site.

- Make sure portable toilets are maintained in good working order by the leasing company and that wastes are disposed of properly. Check toilets frequently for leaks.
- Use recyclable materials whenever possible. Recycle materials such as concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rock, and vehicle maintenance materials such as used oil, antifreeze, batteries and tires.
- Dispose of all wastes and demolition debris properly. Many construction materials can be recycled. Materials and debris that cannot be recycled must be taken to an appropriate landfill or disposed of as hazardous waste. Never bury waste materials or leave them in the street or near a creek or stream bed.

Land Use and Planning

No BMPs, WRP IS/MND Mitigation Measures or PWWFP Plan EIR Mitigation Measures are applicable. Construction of the storage tanks at either location will not conflict with existing land use and planning policies. The recycled water distribution system will mostly be installed within existing underground rights-of-way and/or easements. The new underground tank feed pipeline segment to the recycled water tank on Gypsy Hill will be underground within City of Pacifica streets and NCCWD rights-of-way.

Noise

No BMPs, WRP IS/MND Mitigation Measures or PWWFP Plan EIR Mitigation Measures are applicable. The project will not expose people in the community to permanently excessive noise levels. Residents that live near the pipeline project site will be subjected to temporary construction noise, for a period of up to one month. Most of the noise will be generated by heavy machinery which will have the standard noise muffling devices and construction will be limited to weekdays (M-F) from 8:00 a.m. to 6:00 p.m. in areas near residences.

Public Services

No BMPs, WRP IS/MND Mitigation Measures or PWWFP Plan EIR Mitigation Measures are applicable. No public service providers or other public facilities will be adversely affected by the proposed project.

Recreation

No BMPs, WRP IS/MND Mitigation Measures or PWWFP Plan EIR Mitigation Measures are applicable. The project does not propose the construction or expansion of any recreational facilities nor will it result in increased population that could impact existing recreational facilities.

Transportation/Traffic

No BMPs are applicable. WRP IS/MND does not list mitigation measures. The following applicable mitigation measure is from the PWWFP Plan EIR:

> **Measure TRA-1:** Prohibit lane closure during peak traffic hours.

Utilities and Service Systems

No BMPs, WRP IS/MND Mitigation Measures or PWWFP Plan EIR Mitigation Measures are applicable. The project does not require or result in the construction or expansion of new or existing public utility facilities service systems.

4. RELATED ACTIONS BY OTHER AGENCIES

City of Pacifica

The City of Pacifica guides long-range land use planning decisions through the establishment of goals and policies contained in the City General Plan (Updated October 1997). The General Plan Land Use Element divides the City into Inland Areas and Coastal Neighborhoods; the latter being also subject to the City's Local Coastal Land Use Plan. These two general areas are, in turn, divided into 8 inland neighborhoods and 6 coastal neighborhoods. The Coastal Zone extends from the eastern edge of Highway 1 to the Pacific Ocean, and the project site is located within this Coastal Zone, in the Fairmont West neighborhood (page 51, Pacifica General Plan, Updated 1997).

The wastewater treatment plant and pump station and all areas to the west of Highway 1 north to Clarendon Avenue are located in the Sharp Park Golf Course-West Fairway Park-Mori Point-Rockaway Beach District. The Ingrid B. Lacy Middle School site is located in the West Sharp Park District. Both of these Districts are on the west side of Highway 1 and as such are within the Coastal Zone.

The pipeline areas that continue east from the pump station and Highway 1 alignment travel through Sharp Park to the water tank site; all of this area is within the East Fairway Park-Vallemar-Rockaway District. Oceana High School is within the East Sharp Park District. Proposed Highway 1 landscaping is within both the East Fairway Park-Vallemar-Rockaway District and the East Sharp Park District.

The NCCWD already obtained a permit from the City of Pacifica for project elements that take place in areas east of Highway 1. The NCCWD already obtained a Coastal Development Permit from the City of Pacifica for project elements that will take place in areas west of Highway 1.

U. S. Environmental Protection Agency

The project received a Water Recycling Facilities Federal Capitalization Grant from the State Water Resources Control Board (SWRCB). These funds originate from the federal government under the direction of the U. S. Environmental Protection Agency (EPA). Due to the presence of listed threatened and endangered species within the project area, the EPA consulted with the USFWS and the USFWS issued a biological opinion (see below).

U.S. Fish and Wildlife Service

The EPA submitted a request for formal consultation to the USFWS in June 2008. The request was accompanied by a Biological Assessment (BA) that was prepared for the NCCWD. The project that was described in the BA is the same project described in this EA. The USFWS issued a Biological Opinion on March 11, 2009 that concluded "that the Pacifica Recycled Water Project, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog or San Francisco garter snake." The determination was based on the following: "(1) the relatively small amount of upland habitat available to red-legged frogs and garter snakes that will be temporarily disturbed; (2) a Service-approved biologist that will monitor work within

the proposed action area; and (3) the conservation measures that will be implemented to avoid, minimize, and compensate for effects to these species."

The following are the conservation measures that will be used to avoid, minimize, and compensate for effects on the CRLF and SFGS related to installing the recycled water pipeline along Francisco Boulevard at the Sharp Park Golf Course, during construction of the pump station, and during installation of the new pipe from the CCWRP to State Highway 1:

1. To the extent feasible, work will occur between late May 1 and November 1 to avoid the mating and breeding period(s) of garter snakes and red-legged frogs.

2. No more than two weeks prior to the start of construction, a Service-approved biologist will survey the project alignment from Station 28+00 and Station 35+00 adjacent to the Sharp Park Golf Course and within the areas for the new pump station and pipe between the CCWRP and State Highway 1 for red-legged frogs, garter snakes, and their habitat. The name and credentials of biologists shall be submitted to the Service for approval at least 15 days before commencement of work.

3. A Service-approved biologist shall conduct a training session for all construction personnel involved in installation of the pipeline along Francisco Boulevard (between Stations 28+00 35+00) adjacent to the Sharp Park Golf Course, and the CCWRP during construction of the pump station and installation of the new pipe. At a minimum, the training shall include a description of the species and its habitat, the importance of the species and its habitat, the general measures that are being implemented to conserve the red-legged frog and garter snake as they relate to the proposed action, and the boundaries within which the proposed action may be accomplished.

4. A Service-approved biologist shall be present at the active work sites along Francisco Boulevard (between Stations 28+00 and 35+00) adjacent to the Sharp Park Golf Course, at the CCWRP during the construction of the pump station and installation of the new pipe. The monitoring biologist shall have the authority to temporarily stop work if red-legged frogs, garter snakes or their habitats are at risk.

5. During work activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas. The monitoring biologist will inspect the work site at the beginning and end of each work day to ensure all trash and debris have been properly contained.

6. All trenches, pits, or open areas will be backfilled or plated at the end of each work day to prevent individual red-legged frogs and garter snakes from becoming trapped. The monitoring biologist will check all open areas each morning for entrapped wildlife. No work shall begin until the biological monitor has inspected the open areas.

7. All fueling and maintenance vehicles and other equipment and staging areas shall occur at least 20 meters from riparian habitat or water bodies. The NCCWD or its contractor shall ensure that contamination of habitat does not occur during such operations. Prior to the start of construction, the NCCWD or its contractor will prepare a spill prevention plan that will require prompt and effective response to any accidental spills.

8. Exclusionary fencing (silt fencing or other appropriate materials) will be installed on the western side of the work area between Station 28+00 and 35+00 during active work sites to prevent individual red-legged frogs and garter snakes from entering the work area.

9. Upon completion of construction, all areas temporarily disturbed during pipeline installation will be restored. All areas will be returned to pre-project conditions, including topography, hydrology, and vegetation community composition. After the pipe has been installed, the work area will be backfilled and the soil compacted to reduce the potential for erosion. The work site will be seeded to further prevent erosion.

Additional measures are listed in the Biological Opinion pertaining to the use of the recycled water for the irrigation of the Sharp Park Golf Course. These measures are not included here as the Reclamation funds will not be used for any aspects of the project related to the golf course. The measures related to golf course irrigation can be found in the Biological Opinion.

Figure II-1: Regional Vicinity

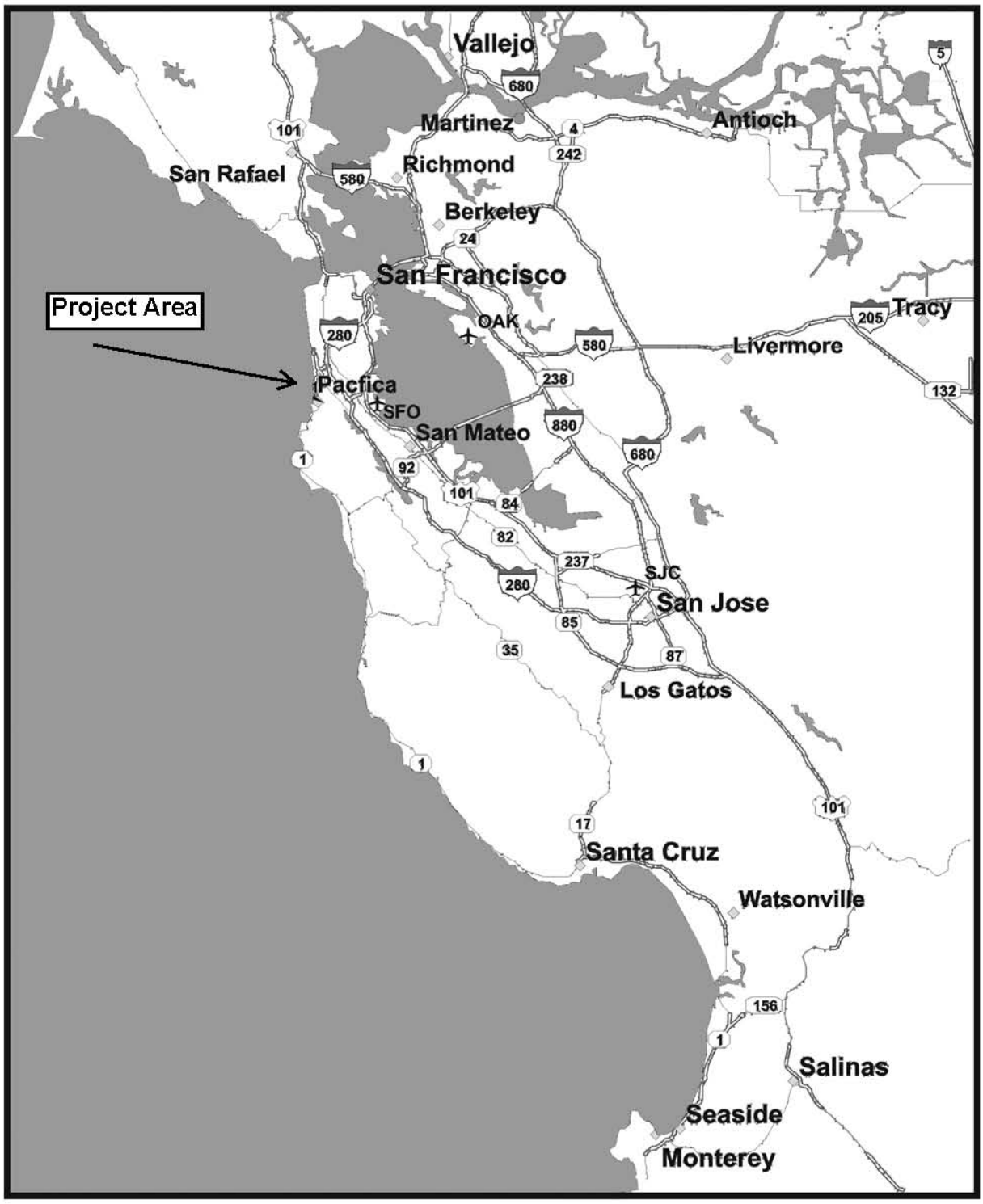

Figure II-2: Location of Project Features

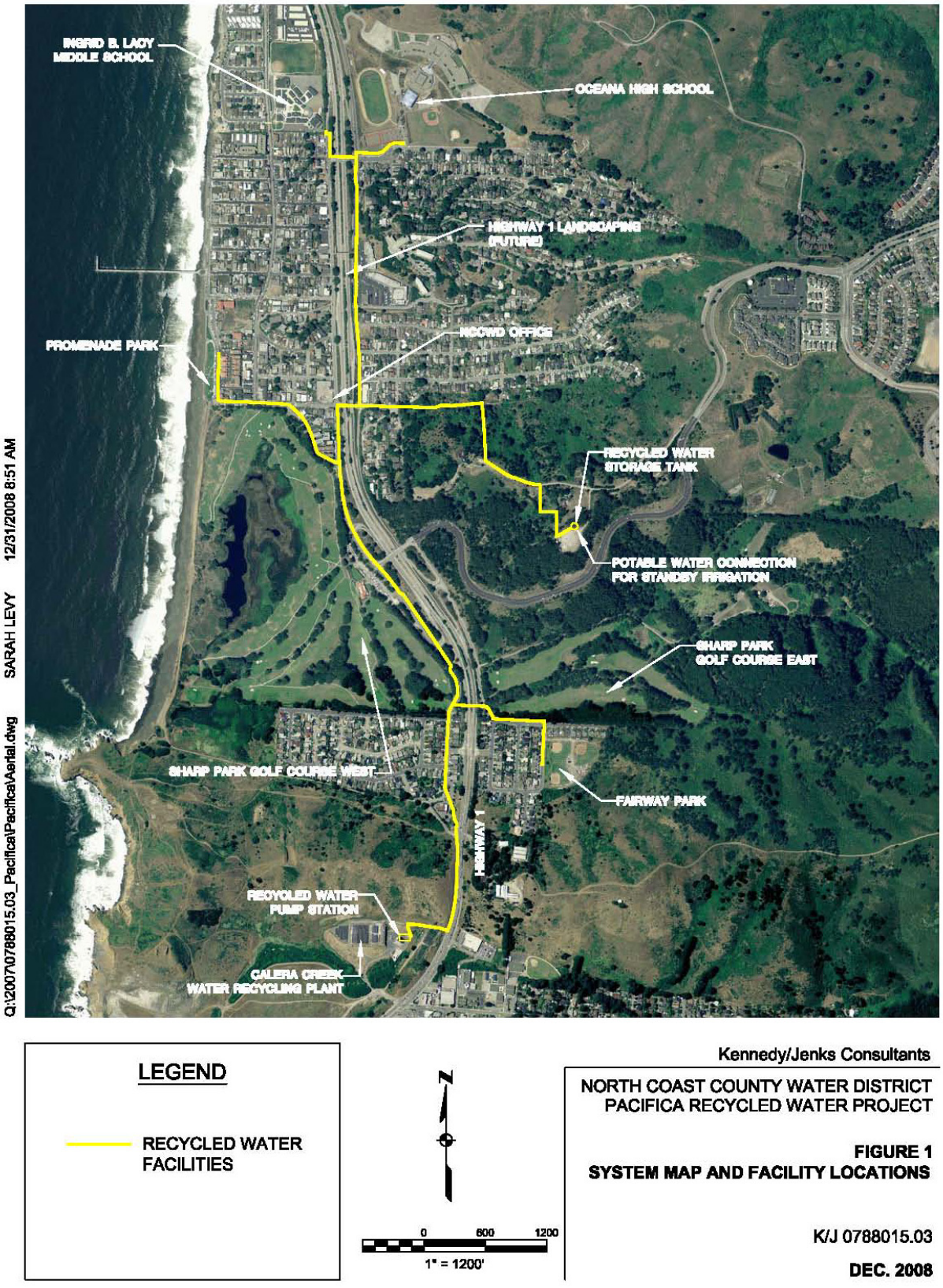

Figure II-3: Pump Station Location

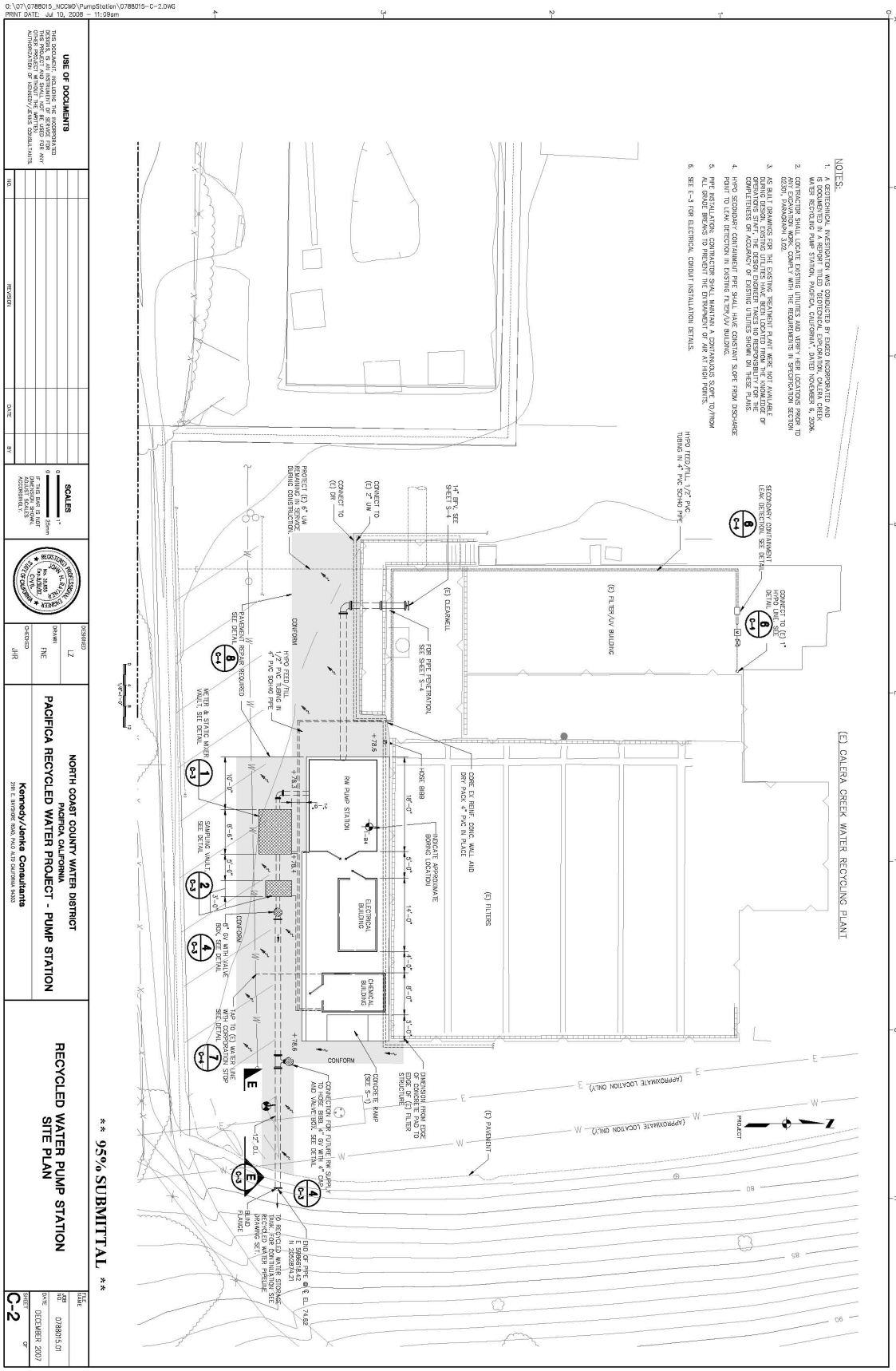

Figure II-4: Gypsy Hill Tank Location

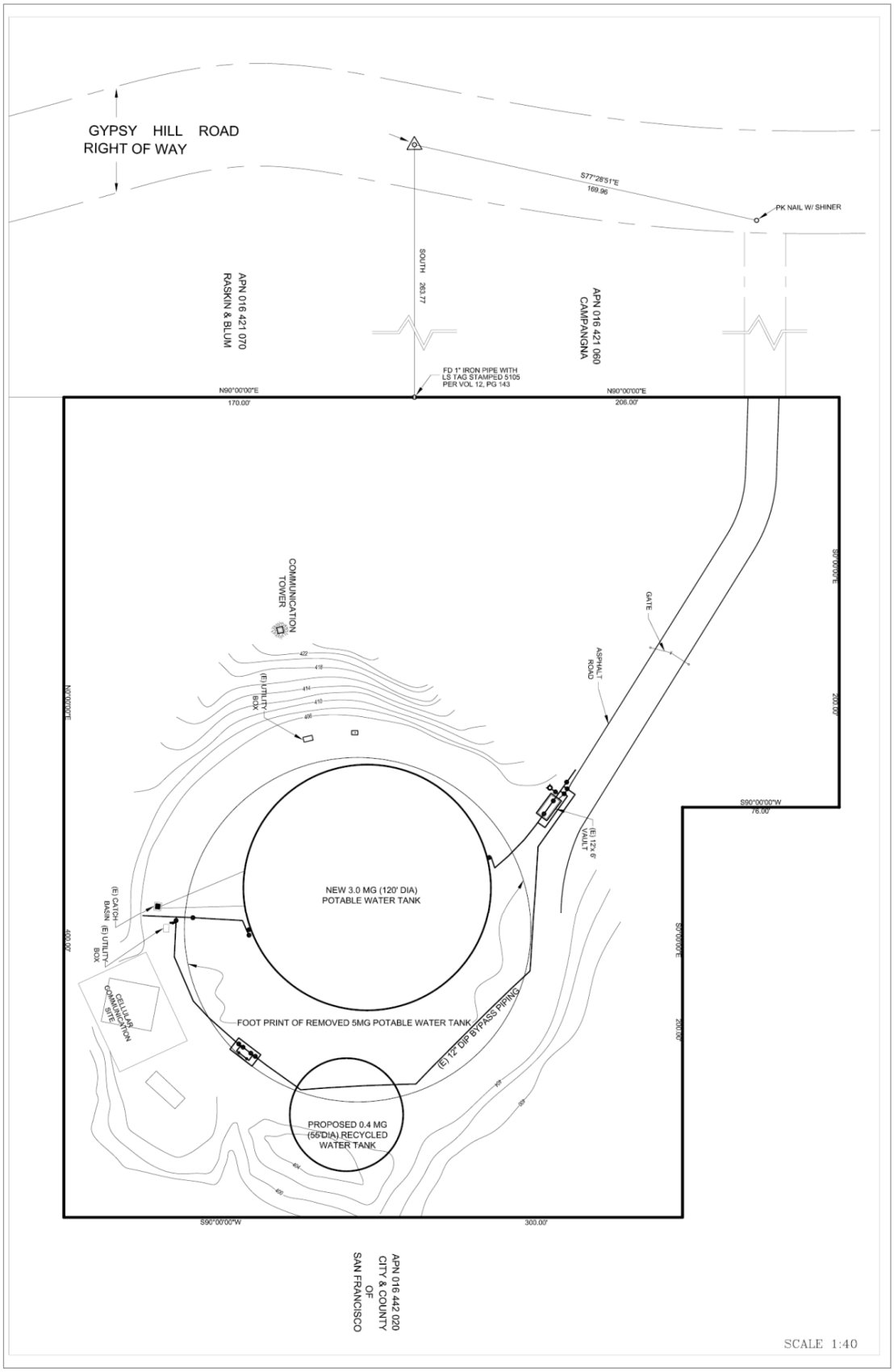

Photo 1: CCWRP tank and pump station location. The tanks and pump station will be located on the asphalt pavement in the foreground (TRA, July 2007).

Photo 2: New three million gallon potable water tank at NCCWD's Gypsy Hill Site

Photo 3: Gypsy Hill Recycled Water Tank Site.

III. Affected Environment and Environmental Consequences

This environmental assessment section describes the environmental conditions within the project area. It provides information to serve as a baseline from which to identify and evaluate environmental effects resulting from implementation of the proposed action and No Action alternative. The effects of the proposed action and No Action alternative are discussed in Section IV. B.

The only change in the project from the 2007 project that was the subject of CEQA analysis by the NCCWD was a minor reroute of the pipeline corridor near the Moose Lodge to avoid a potential cultural resource site. The following information is taken from both the WRP IS/MND and the WRP SIS/MND, but has been updated as part of the due diligence process where necessary.

A. AFFECTED ENVIRONMENT

This section contains a description of existing conditions and analysis to determine if the project has significant impacts on the following environmental issues: 1) Air Quality, 2) Biological Resources, 3) Cultural Resources, 4) Geology and Soils, 5) Hazardous Materials, 6) Hydrology and Water Quality, 7) Land Use, 8) Visual Resources, 9) Noise, 10) Environmental Justice, 11) Transportation and Traffic, 12) Recreation, and 13) Indian Trust Assets.

1. AIR QUALITY

The proposed project site is located in the Bay Area Air Quality Management District (BAAQMD). The BAAQMD monitors and enforces District, State of California and Federal air quality standards. Currently, the Bay Area is in attainment (meets the established standards) for all national standards set forth in the federal Clean Air Act, except for 8-hour ozone standard and the 24-hour standard for fine particulate matter (PM 2.5). The Bay Area is not in attainment (exceeds the established standards) for the California Clean Air Act (CCAA) standards for three pollutants: ozone (both the one-hour and 8-hour standards), particulate matter (PM) less than 10 microns in diameter, and fine particulate matter less than 2.5 microns in diameter. All other pollutants are designated as "attainment" or "unclassified" for federal standards and as an "attainment" area for the state standard (BAAQMD October 2009).

The closest air data collection station is in Redwood City (Bay Area Air Quality Management District website, http://gate1.baaqmd.gov/aqmet/AQSiteYearly.aspx). This location does not provide complete air quality analysis for areas in Pacifica, however, since there is a big ridge of the Santa Cruz Mountains, including Sweeney Ridge, that separates the two cities. This mountainous ridge not only limits prevailing westerly winds from the Pacific Ocean from reaching Redwood City in the same manner as they do in Pacifica, it also serves as a barrier to trap ozone, particulate matter and carbon monoxide. Generally, then the air quality is better in Pacifica than at this air data station in Redwood City.

The climate in Pacifica is generally characterized as Mediterranean, with cool, wet winters and warmer, dry summers. Coastal fog is very prevalent during the summer months. Average rainfall is approximately 23 inches (mostly in winter (with some fog drip counting as precipitation) and average temperatures in the area ranging from approximately 50 mean degrees in January to approximately 60 mean degrees in September, the most fog-free month (Worldclimate.com 2009).

EPA issued particulate matter (PM) attainment status designations on December 22, 2008, designating the Bay Area as nonattainment for the 35 mg/m 3 PM 2.5 standard. The Air District is required to submit an attainment plan to EPA by April 2012 that demonstrates attainment of the new national 24-hour PM 2.5 standard by April 2014.

2. BIOLOGICAL RESOURCES

General and focused plant and wildlife surveys of the Pacifica Recycled Water Project pipeline alignment, pump station and water storage tank and adjacent habitats were conducted in preparation of the 2004 IS/MND and the 2007 WRP SIS/MND. A description of habitat types and associated wildlife, and special-status species that were considered for their potential to occur in the Project Area as discussed in the abovementioned documents is contained in the following section.

a. Description of Habitats

The habitats where the three project features (e.g., pump station, pipeline alignment, and storage tank) will be located is listed in this section. The pump station would be situated on the existing, paved CCWRP facility site, at the southern end of the project area. The primary distribution pipeline alignment runs north from here, with five lines running off this main line to access the recycled water facilities of Sharp Park Beach Boulevard Promenade and Ingrid B. Lacy Middle School to the west, and Fairway Park, the proposed Gypsy Hill storage tank, and Oceana High School to the east (Figure I-2). The storage tank at would be located on the same property as the NCCWD's Gypsy Hill potable water tank, off of Gypsy Hill Road.

Pump Station

The pump station would be situated within the existing, paved area of the CCWRP. Thus, no natural habitats occur within the footprint of this feature. In close proximity to the proposed pump station is Calera Creek, with associated riparian, wetland, and open water habitats. Upland habitat consisting of non-native grassland surrounds the CCWRP. In the region of the CCWRP is coastal scrub habitat, although such habitat does not occur in the immediate vicinity of the CCWRP or pump station site.

Calera Creek was historically an intermittent channel that has become perennial in its lower reaches due to the year round release of treated wastewater from the Calera Creek Wastewater Treatment Plant. The plant currently releases an average of 300,000 gallons of treated effluent a day into the western portion of the creek. This creek exhibits pools, riffles, glides and other natural streambed features. These features provide important seasonal and perennial foraging and breeding habitats for many species of wildlife, including amphibians, reptiles and migratory and resident birds.

Riparian vegetation associated with Calera Creek is dominated by several willow species including arroyo willow (*Salix lasiolepis*), Sitka willow (*S. sitchensis*), and yellow willow (*S. lasiandra*). Associated species are various, and include pacific wax myrtle (*Myrica californica*), red alder (*Alnus rubra*) and western dogwood (*Cornus sericea*). Asociated herbaceous species include native thimbleberry (*Rubus parviflorus*), common horsetail (*Equisetum arvense*), California bee-plant (*Scrophularia californica* and Pacific oenanthe (*Oenanthe sarmentosa*), as well as non-native species including Cape ivy (*Delairea odorata*), English ivy (*Hedera helix*), poison hemlock (*Conium maculatum*), and Himalayan blackberry (*Rubus discolor*). Riparian habitat is widely recognized within the ecological community for its importance in providing foraging, nesting and resting habitat for numerous wildlife species including resident and migratory songbirds, raptors, reptiles and amphibians.

Wetland habitat along the Calera Creek corridor includes stands dominated by assorted species of bulrush, including American bulrush (*Scirpus americanus*), California bulrush (*S. californicus*), panicled bulrush (*S. microcarpus*) and three-square (*S. pungens*). Stands dominated by broadleaf cattail (*Typha latifolia*) also occur in portions of Calera Creek. Wetland habitat provides nesting, breeding and foraging habitat for wildlife species such as the California red-legged frog and San Francisco garter snake.

Grassland habitat in the vicinity of the CCWRP is similar to that described under the pipeline alignment, below.

Pipeline Alignment

The primary distribution pipeline alignment and the pipelines to Sharp Park Beach Boulevard Promenade, Ingrid B. Lacy Middle School, Fairway Park, and Oceana High School would be located along existing roadways or highly disturbed areas associated with existing roads, residential neighborhoods, and recreational facilities such as parks and the Sharp Park Golf Course. The pipeline to the storage tank would traverse an area not adjacent to a feature such as these, and is described in detail under Storage Tank, below.

Habitats along the pipeline alignment include non-native annual grassland/ruderal, and landscape/turf. The dominant species within the grassland community are soft chess (*Bromus hordeaceus*), wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), and filaree (*Erodium* spp.). The grasslands at the site are homogenous, composed of the above species with a significant component of non-native forbs. These include bindweed (*Convolvulus arvensis*), yellow star-thistle (*Centaurea solstitialis*), ox-eye daisy (*Picris echioides*) and sow thistle (*Sonchus oleraceous*), among others. This community is locally and regionally common.

The Project Area includes landscape ornamental vegetation and turf associated the roadways adjacent to the State Highway 1 corridor. Dominant woody plant species include Monterey cypress (*Cupressus macrocarpa*), Monterey pine (*Pinus radiata*), and blue gum eucalyptus (*Eucalyptus globulus*). Roadways maintained by the city and county are planted with non-native species such as sod and oleander (*Nerium oleander*).

The value of the non-native grassland habitat along the pipeline alignment to wildlife is limited due to the location of the alignment along Highway 1 and other roadways. Species that may be found in this habitat include reptiles such as western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis melanoleucus*), and urban-adapted birds such as mourning dove (*Zenaidura macroura*), California towhee (*Pipilo crissalis*), scrub jay (*Aphelocoma coerulescens*), and mockingbird (*Mimus polyglottus*), among others. Mammals such as California vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), and broad-footed mole (*Scapanus latimanus*) may forage and nest within the grassland habitat. Small rodents attract raptors (birds of prey), such as red-tailed hawks (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and barn owl (*Tyto alba*).

Storage Tank

The main portion of the storage tank site is flat and currently devoid of vegetation, with eucalyptus trees on the slope below the site and above Sharp Park Road. This location requires an approximately 3000-foot long pipeline to be installed adjacent to an already existing potable water pipeline. This pipeline will be trenched within a 10-foot wide easement along that part of the Gypsy Hill pipeline in open hillside (as shown in Figure I-2). An additional 10-foot wide temporary construction easement will be required on either side of the existing easement for equipment access, for a total width of 30 feet.

The habitat along the pipeline easement running from the water tank to Gypsy Hill Road is comprised mostly of ruderal vegetation, such as French broom (*Genista monspessulana*), Himalayan blackberry (*Rubus discolor*), bedstraw (*Galium aparine*), curly dock (*Rumex crispus*), fennel (*Foeniculum vulgare*), and nonnative annual grasses. Native plants such as soap plant (*Chlorogalum pomeridianum*), yarrow (*Achillea millefolium*), California aster (*Aster chilensis*), coast onion (*Allium dichlamydeum*), hedge nettle (*Stachys ajugoides*), Ithurial's spear (*Triteleia laxa*) and poison oak (*Toxicodendron diversilobum*) are mixed in with the nonnatives. Habitat along Gypsy Hill Road consists primarily of nonnative annual grasses such as ripgut brome (*Bromus diandrus*) and foxtail barley (*Hordeum murinum*), pampas grass (*Cortaderia selloana*); and herbs such as poison hemlock (*Conium maculatum*), and field mustard (*Brassica rapa*).

The alignment from Gypsy Hill Road to Clarendon Road through the easement passes through a power line corridor dominated by poison oak. Adjacent to the corridor in the area that will be affected by temporary construction are native California coffeeberry (*Rhamnus californica*), and nonnatives such as cotoneaster (*Cotoneaster pannosa*), Portuguese broom (*Cytisus striatus*), bracken fern (*Pteridium aquilinum* var. *pubescens*), and Monterey pine. Poison oak dominates much of the easement. This area provides the habitat necessary for foraging and nesting for both raptor and passerine birds, such as bushtits (*Psaltriparus minimus*), lesser goldfinch (*Carduelis psaltria*), house finch (*Carpodacus mexicanus*), wrentits (*Chamaea fasciata*), spotted towhee (*Pipilo maculates*), red-tailed hawk, barn owl and great horned owl (*Bubo virginianus*).

b. Special-Status Species

Special-status species are plants and animals that are legally protected under the state and/or federal Endangered Species Act (ESA) or other regulations, or as determined to be rare or of special consideration by the U.S. Fish and Wildlife Service, California Department of Fish and Game, and California Native Plant Society. Categories for special-status include:

- plants or animals listed or proposed for listing as threatened or endangered under the federal ESA (50 Code of Federal regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]).
- plants or animals that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR 40, February 28, 1996);
- plants or animals designated as "special concern" (former C2 candidates) by Region 1 of the U.S. Fish and Wildlife Service (USFWS);
- plants or animals listed or proposed for listing by the State of California as threatened or endangered under the California ESA (14 California Code of Regulations [CCR] 670.5);
- plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.);
- plants that meet the definitions of rare and endangered under CEQA (State CEQA Guidelines, Section 15380);
- plants considered under the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B, and 2 in CNPS 2007);
- plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution (Lists 3 and 4 in CNPS 2007), which may be included as special-status species on the basis of local significance or recent biological information;
- animal species of special concern to CDFG; and

- animals fully protected in California (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

The Pacifica Recycled Water Project IS/MND and WRP SIS/MND were consulted to prepare an initial list of special-status plant and wildlife species to be considered for the current project. The California Natural Diversity Database (CNDDB 2009) was consulted concerning sensitive botanical and wildlife resources in the vicinity of the Project. In addition, the California Native Plant Society online inventory (CNPS 2007) was reviewed to identify sensitive plants in the general project region. As part of TRA's due diligence process, these databases were checked in 2009 in the preparation of this document. No new listing of botanical or wildlife resources not listed and analyzed in the 2007 SIS/MND were found. Appendix A includes a table of special-status wildlife and plants that were considered for their potential to occur in the Project Area.

Special-Status Plant Species

Reconnaissance-level surveys conducted by Thomas Reid Associates (2004 and 2007) and ESA (2008), as well as search results from the CNDDB, did not reveal the occurrence of any special-status plant species within the project corridor. The majority of the pipeline will occur within city streets and developed areas and no special-status species are anticipated to occur. The roadways and road easements where direct impacts from construction activities will occur are largely disturbed and are dominated by non-native and common ruderal species. Large portions of the Project Area have been extensively modified because of residential development and CCWRP, and occurrence of any special-status plant species within these areas is unlikely. The location of the new pump station is within the existing paved parking area of the CCWRP, and therefore, no special-status plant species occur within this area. A survey of the site for tank placement on Gypsy Hill found no special-status plants (Thomas Reid Associates 2007). Implementation of the project components is not expected to affect any special-status plant species.

Special-Status Wildlife Species

The site has a low potential to provide foraging and in some cases nesting habitat for several avian California species of special concern, including salt marsh yellowthroat (*Geothlypis trichas sinuosa*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), short-eared owl (*Asio flammeus*), and golden eagle (*Aquila chrysaetos*). Other special-status bird species with a low potential for occurrence include Swainson's hawk (*Buteo swainsoni*, state threatened), merlin (*Falco columbaris*, CDFG Special Animal), peregrine falcon (*Falco peregrinus anatum*, California endangered, state fully-protected), and white-tailed kite (*Elanus leucurus*, state fully-protected).

The San Francisco dusky-footed woodrat (*Neotoma fuscipes*, state species of special concern) is known to exist in the vicinity of Gypsy Hill and habitat exists within the portion of the proposed pipeline from the Gypsy Hill Tank to Clarendon Road.

Calera Creek and associated habitats as well as adjacent upland areas provide habitat for California red-legged frog (*Rana aurora draytonii*, CRF, federal threatened and state candidate), western pond turtle (*Actinemys marmorata*, state species of special concern), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*, SFGS, federal and state endangered). Breeding, foraging and dispersal habitat for these species occur in the Project Area and CRF and SFGS have been located within the Project Area during previous surveys and studies (USWFS 2009).

The recycled water storage tank is approximately 350 feet west of the proposed revised critical habitat for CRF (USFWS 2008). The new pump station is within the existing paved area of CCWRP, although frogs may move through the proposed action area due to the proximity of Calera Creek and upland habitat. CRF is known to occur in Calera Creek (CNDDB 2009). The Project Area contains habitat components that could be used by SFGS for feeding, sheltering, movement and other essential behavior.

Take of CRF and SFGS is subject to regulations of both the state and federal endangered species acts. Of the species considered in this Environmental Assessment, these two have the greatest potential to be impacted by project activities, in particular the reduction of flows in existing water bodies where they may breed and/or forage. In response to this, the U.S. Fish and Wildlife Service entered Section 7 consultation for this project and subsequently issued a Biological Opinion (BO) that allows for take of these species (USFWS 2009. The BO is in part based on the Revised Biological Assessment (ESA 2008) which addressed the following species: CRF, SFGS, and Mission blue, San Bruno elfin, and Myrtle's silverspot butterflies. The USFWS determined that the proposed action was not likely to adversely affect the butterfly species. The agency does anticipate that some amount of take of CRF and SFGS may result from project activities.

3. CULTURAL RESOURCES

Pump Station and Pipeline Route

An archaeological literature review for the for the pump station at the CCWRP and the pipeline route was undertaken by Miley Holman at the Northwest Information Center (NWIC) located at Sonoma State University during the last week of September 2003 (file no. 03-215). The records indicate that there have been numerous archaeological surveys of the pipeline route between the recycling plant and the vicinity of the Sharp Park Golf Course which have resulted in the recording of two prehistoric archaeological sites, Sma-162 and 268, and one historic site, C-302, the historic Vallemar Railroad Station, and one possible prehistoric site in the Sharp Park vicinity. Since this site and route have not been subject to subsequent trenching activity, no new literature on these sites would have been sent to the NWIC.

Additionally, there have been at least two archaeological literature reviews done previously by Thomas Reid Associates for the Calera Parkway (Highway 1) Improvements project, which covered most of the proposed route of the pipeline. In 2000 (file 00-137) the Northwest Information Center (NWIC) reported that there had been three archaeological studies which covered portions of the current pipeline project (Melandry 1986:S-8244; O'Connor and Melandry 1988:S-9715; Orlins and Schwaderer 1994:S-15828). The project review concluded that the area should be considered archaeologically sensitive for prehistoric occupation sites and recommended further archival and field research.

An updated review was done in 2003 by Thomas Reid Associates (file no. 02-882) for the Calera Parkway Improvements project which restated the findings of the 2000 literature review concerning archaeological sensitivity based upon the proximity of Sma-162 and 268, recommending further field study.

The WRP SIS/MND stated that no additional cultural resources have been recorded at the pump station site or along the proposed pipeline route other than three which have been mapped: Sma-268, 162 and C-302. Of these three resources, only one, Sma-268, is actually located on or near the projected route. The other two sites, Sma-162 and C-302, are not located near the pump stations or inside the projected route of the pipeline. Again, since no new excavation has occurred since 2007, the documentation contained in the 2004 WRP IS/MND

and the 2007 WRP SIS/MND contains a complete list of the recordings of cultural resources at the NWIC.

On October 17, 2009, a minor reroute of the pipeline route along Highway 1 near the Moose Lodge was suggested by Reclamation after a survey was conducted on a formerly un-surveyed portion of the route. Reclamation entered into consultation with SHPO regarding the minor project change.

SMA-268

This is an archaeological site first recorded by Melandry and Compton during a Caltrans survey in 1986, although the site had been known about since 1963, when improvements to Route 1 (culvert placement) revealed an extensive archaeological deposit containing as many as 50 bodies (Clark 2002:11). The site was re-recorded by Orlins and Schwaderer in 1993 for the water recycling plant construction and wetlands construction project. Clark describes their work below:

They described it as a "habitation site: dark brown midden with many shell fragments, mammal bone, fire affected rock" (1993:1) entirely north of the creek. On the site record Orlins and Schwaderer also describe the site as partially "covered with up to 27" of fill and overburden." Having relocated the site, Orlins and Schwaderer recommended extended subsurface reconnaissance, carried out in September 1993 with a backhoe. Eight backhoe trenches were excavated, delimiting the site and revealing about 60-65 cm of apparently intact shell midden. Although Orlins and Schwaderer state that the bank of Calera Creek forms the southerly and easterly site boundary" (1994:10), no trenches were excavated east of the creek into the berm of the Caltrans right-of-way...." (2002:10-11)

In short, Orlins and Schwaderer stopped at the right of way probably due to the complexity of obtaining Caltrans permits. The pipeline would not encroach into this "unknown" area.

Pipeline Route up to Gypsy Hill Tank Site

On May 30, 2007, Matthew Clark of Holman and Associates conducted a walking survey of the new tank feed pipeline route to the proposed tank location on Gypsy Hill to determine the potential for presence of cultural resources up to and on the tank site. No historical resources were noted. The pipeline route for this EA is exactly the same as was reviewed in 2007.

The Holman Associates report states that the proposed pipeline route is of very low archaeological sensitivity, except possibly for the western-most portion on Clarendon Road. Most of the route is both already disturbed, on thin topsoils, or on steep and thickly vegetated slopes where archaeological resources are not expected. The western end of the pipeline route is on existing, paved Clarendon Road from Charing Cross to Oceana Boulevard. The surface survey in this area focused on landscaped residential yards and the paved road, finding no evidence of archaeological materials, but clearly native soil visibility here is greatly hindered. The entire area is of very low archaeological sensitivity.

Reclamation contacted the California State Office of Historic Preservation (State Office) regarding the revised project's compliance with Section 106 of the National Historic Preservation Act. Staff at the State Office reviewed documentation provided by Holman and Associates and Reclamation. In a letter dated October 29, 2009, to Mr. Michael Chotkowski of Reclamation, Mr. Milford Donaldson of the State Office concurred with Reclamation that no historic properties would be affected by the revised project.

4. GEOLOGY AND SOILS

The proposed recycled wastewater pipeline and recycled wastewater storage tank project area occurs on the following primary soil and or geologic types, as shown in page 98a of the Pacifica General Plan: 1) Artificial fill of man-made origin; 2) Terrace deposits at the wastewater treatment plant and south of Sharp Park Golf Course (between the Golf Course and Mori Point); 3.) Franciscan greenstone at the pipeline corridor between the wastewater treatment plant through the Highway 1 roadcut at the Mori Point Ridge; and 4) Colluvium in hillside areas. More detailed descriptions of these materials are included below.

1. Artificial fill in the project area consists of miscellaneous earth materials of varying composition and thickness. Field inspections of the project area during the preparation of the 1994 Wastewater Facilities Plan EIR by the geological consultant Rogers Pacific showed sandy loams, gravel and other materials along the Highway 1 roadway. Slope stability varies with texture and composition. Earthquake stability is poor-to-good, depending on local conditions. Fill is typically suitable for pipelines and light structures.

2. Marine terrace materials are weakly consolidated, slightly weathered sand and gravel deposits. These are generally less than 30 feet thick and occur on flat, gently sloping platforms along the Pacific coast. Severe gullying occurs in artificial cuts in marine terrace deposits.

3. Franciscan greenstone consists of greenish-gray to buff colored, fine to coarse-grained sandstone (graywacke) and lithic rock with interbedded siltstone, shale and local conglomerate. Siltstone and shale constitute less than 20% of the unit, but in places form sequences tens of meters thick. Total thickness of the unit is unknown but is at most likely several hundreds of meters.

4. Colluvium is an unconsolidated, heterogeneous material deposited by mass wasting on the lower portions of steep slopes. Colluvium is subject to downslope creep. It probably covers most upland slopes in San Mateo County, but is restricted in the project area to deposits at the base of steep slopes and in small gullies. Locally, the colluvium may be as much as 30' thick. It may also contain organic debris. Colluvium interlaces with and grades into alluvial deposits in canyon bottoms at the bases of slopes.

A geotechnical report was prepared for the CCWRP recycled water pump station by Engeo Inc. in November 2006. The soils at the CCWRP site are described as artificial fill and colluvium over Franciscan greenstone. The colluvium appears to have been removed during grading during construction of the CCWRP and artificial fill was placed on top of the underlying greenstone. The artificial fill under the pump station at the CCWRP is approximately 35 feet deep. This geotechnical report is included in this EA as Appendix B, as the geology of the site has not changed.

A geotechnical report at the NCCWD's Gypsy Hill property was prepared by Land/Marine Geotechnics in 2005 for the newly built three million gallon potable water tank which is located adjacent to the proposed recycled water tank site. It is expected that the same general seismic hazards and soil conditions will exist for the new recycled water tank. The site encompasses a bench cut at Elevation 404 (North Coast County Water District, undated) approximately 50 feet below the crest of an east-west striking ridge. The materials mapped on the site include bedrock overlain by colluvium and fill. The tank pad has been cut into Franciscan Complex sandstone and fill has been placed to level the bench. This geotechnical report is included in this EA as Appendix C, as the geology of the site has not changed.

The City of Pacifica is located in a region that contains numerous active earthquake faults. The nearest active fault is the San Andreas Fault, located about 3 kilometers northeast of all sites. The Seal Cove/San Gregorio fault is located 5 kilometers northwest from the sites and the Hayward fault is 33 kilometers east of the sites. The sites will likely be subject to strong ground shaking because of its proximity to several active faults.

5. HAZARDOUS MATERIALS

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state or local agency, or if it has characteristics defined as hazardous by such an agency. Chemical and physical properties such as toxicity, ignitability, corrosivity and reactivity, cause a substance to be considered hazardous. These properties are defined in the California Code of Regulations (CCR), Title 22, Sections 6621.20-6621.24. A "hazardous waste" is any hazardous material that is discarded, abandoned, or to be recycled. The criteria that render a material hazardous also make a waste hazardous (California Health and Safety Code, Section 25117).

According to this definition, fuels, motor oil, and lubricants in use at a typical construction site and lead built up along roadways could be considered hazardous. Excavation may expose buried hazardous materials resulting from prior use of the proposed site or adjacent property.

A search of the California Department of Toxic Substances Control EnviroStor Database (Cortese List) (http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm) revealed that there are no toxic waste sites within the City of Pacifica.

6. HYDROLOGY AND WATER QUALITY

Construction of the water tank will be on flat ground that is devoid of vegetation. Construction of the pipeline to the NCCWD Gypsy Hill property will place the pipeline underground. In areas where the pipeline will be located under pavement, that pavement will be replaced as part of the construction process. In areas where the pipeline will traverse vegetated areas (between Clarendon Road and the tank site) the areas will be revegetated to prevent erosion as necessary. Because the entire project disturbs over one acre of land, it requires a general construction permit from the Regional Water Quality Control Board. This permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) which will outline required measures to protect water quality.

7. LAND USE

As shown in Figure II-3, the proposed pipeline project originates at the pump station at the existing CCWRP, then turns north to travel along the western side of Highway 1 until turning east under Highway 1 to go to the Gypsy Hill water tank site. Recycled water would be stored in this tank until needed to provide irrigation water to the Oceana High School, Highway 1 landscaping, Fairway Park, the Sharp Park Promenade, and the Sharp Park Golf Course. The approximately 17,000 lineal feet of pipeline would traverse diverse City of Pacifica General Plan Districts and Zoning Designations. In addition, Highway 1 is the eastern jurisdictional boundary of the California Coastal Commission, and as such, the City's Local Coastal Plan Zoning overlay and policies would also apply in all project areas west of Highway 1.

Other relevant Plans and Policies include those of the US Army Corps of Engineers (USACE), for project jurisdictional wetlands; the US Fish and Wildlife Service for Federally Listed Sensitive Species; the California Coastal Commission policies, for application of a Coastal Development Permit for the pipeline from the pump station and the California Department of Fish and Game for State Listed Sensitive Species. An overview of each jurisdiction is described in this section.

City of Pacifica General Plan and Local Coastal Program

The City of Pacifica guides long-range land use planning decisions through the establishment of goals and policies contained in the City General Plan (Updated October 1997). The General Plan Land Use Element divides the City into Inland Areas and Coastal Neighborhoods; the latter being also subject to the City's Local Coastal Land Use Plan. These two general areas are, in turn, divided into 8 inland neighborhoods and 6 coastal neighborhoods. The Coastal Zone extends from the eastern edge of Highway 1 to the Pacific Ocean, and the project site is located within this Coastal Zone, in the Fairmont West neighborhood (page 51, Pacifica General Plan, Updated 1997).

The CCWRP and pump station and all areas to the west of Highway 1 north to Clarendon Avenue are located in the Sharp Park Golf Course-West Fairway Park-Mori Point-Rockaway Beach District. The Sharp Park School site is located in the West Sharp Park District. Both of these Districts are on the west side of Highway 1 and as such are within the Coastal Zone.

The pipeline areas that continue east from the pump station along Highway 1 are within the East Fairway Park-Vallemar-Rockaway District. The Gypsy Hill water tank site and the Oceana High School are within the East Sharp Park District. Proposed Highway 1 landscaping is within both the East Fairway Park-Vallemar-Rockaway District and the East Sharp Park District. The NCCWD obtained a permit from the City of Pacifica for project elements that take place in areas east of Highway 1, and has obtained a Coastal Development Permit from the City for project elements that will take place in areas west of Highway 1.

California Coastal Commission

The California Coastal Act of 1976 (Act) requires protection of land and water resources and avoidance of impacts resulting from landform alteration. The Act imposes restrictions on any development in Environmentally Sensitive Habitat Areas, such as wetlands. The Act requires any person proposing to undertake development in the Coastal Zone to obtain a Coastal Development Permit. The Coastal Commission retains permit jurisdiction over any portion of a project that is in state waters, on land up to the mean high tide line, or on lands subject to the public trust. If development is proposed within these areas, a Commission permit is required. Additionally, a proposed project may be appealable to the Commission under the appeal provisions of Coastal Act Section 30603.

Because the wastewater recycling plant, pump station and pipeline from the pump station and pipelines to the Sharp Park Beach Boulevard Promenade and the Sharp Park Elementary School are in the Coastal Zone, the NCCWD needed to obtain a Coastal Development Permit from the City of Pacifica. The NCCWD obtained this Coastal Development Permit from the City of Pacifica.

San Francisco Bay Regional Water Quality Control Board

The San Francisco Bay RWQCB has jurisdiction over the City of Pacifica. The mission of Regional Water Quality Control Boards (RWQCBs) is to develop and enforce water quality objectives and implementation plans that will best protect the beneficial uses of the State's waters, recognizing local differences in climate, topography, geology and hydrology. Regional Boards develop "basin plans" for their hydrologic areas, issue waste discharge requirements, take enforcement action against violators, and monitor water quality. RWQCBs also review and issue, waive, or deny Section 401 Water Quality Certification for projects requiring Corps Section 404 permits for fill of wetlands and other Waters of the U.S. Section 401 refers to the section of the Clean Water Act that gives states the authority to certify that a proposed activity is in conformance with state water quality standards. Requirements of the San Francisco RWQCB

would govern any wetlands disturbance or grading related to the proposed wastewater recycling project.

California Department of Fish and Game (CDFG)

The mission of CDFG is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend for their ecological values and for their use and enjoyment by the public. Provisions of the California Endangered Species Act (CESA) protect state-listed threatened and endangered species. The Fish and Game Commission is charged with establishing a list of endangered and threatened species. CDFG regulates activities that may result in "take" of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code, but CDFG has interpreted "take" to include the killing of a member of a species which is the proximate result of habitat modification. Implementation of the conservation measures in the USFWS Biological Opinion, which are listed in Section II. B. 5 of the EA, would ensure that the endangered species issues (California Red-legged Frog and San Francisco Garter Snake) are addressed.

Activities that result in the diversion or obstruction of the natural flow of a stream, or substantially change its bed, channel, or bank, or utilize any materials (including vegetation) from the streambed require that the project applicant enter into a Streambed Alteration Agreement with CDFG, under section 1600-1603 of the California Fish and Game Code. The CDFG potentially extends the definition of stream to include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams mapped on USGS quads, and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. It is not expected that the proposed project will result in Streambed Alteration, thus no 1601 permit is necessary.

U.S. Fish and Wildlife Service/National Marine Fisheries

The Federal Endangered Species Act (FESA) establishes a broad public and federal interest in identifying, protecting and providing for the recovery of threatened or endangered species. The Secretary of the Interior and the Secretary of Commerce are designated in the FESA as responsible for identifying endangered and threatened species and their critical habitat, carrying out programs for the conservation of these species, and rendering opinions regarding the impact of proposed federal actions on listed species. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) are charged with implementing and enforcing the FESA. USFWS has authority over terrestrial and continental aquatic species, and NMFS has authority over species that spend all or part of their life cycle at sea, such as salmonids.

Section 9 of FESA prohibits the unlawful "take" of any listed fish or wildlife species. Take, as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such action." The USFWS regulations define harm to mean "an act which actually kills or injures wildlife." Such an act "may include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR § 17.3). Take can be permitted under FESA under sections 7 and 10. Section 7 provides a process for take permits for federal projects or projects subject to a federal permit, and Section 10 provides a process for incidental take permits for projects without a federal nexus. The ESA does not extend the take prohibition to federally listed plants on private land, other than prohibiting the removal, damage or destruction of such species in violation of state law.

The USFWS also oversees the implementation of the Migratory Bird Treaty Act of 1918, which prohibits the destruction or possession of individual birds, eggs or nests without a scientific collecting or special purpose permit from the Service. The USFWS is related to the project because of the potential impact of water flow reduction on California Red Legged Frog and San Francisco Garter Snake habitat. The U.S. Environmental Protection Agency submitted a request for formal consultation to the USFWS in June 2008 for the WRP. The request was accompanied by a Biological Assessment (BA) that was prepared for the NCCWD. The project that was described in the BA is the same project described in this EA. The USFWS issued a Biological Opinion on March 11, 2009 that concluded "that the Pacifica Recycled Water Project, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog or San Francisco garter snake." The determination was based on the following: "(1) the relatively small amount of upland habitat available to red-legged frogs and garter snakes that will be temporarily disturbed; (2) a Service-approved biologist that will monitor work within the proposed action area; and (3) the conservation measures that will be implemented to avoid, minimize, and compensate for effects to these species."

U.S. Army Corps of Engineers (USACE)

The USACE works to provide protection of the nation's aquatic environment through the regulation of activities in waters of the United States under the federal Rivers and Harbors Act and the Clean Water Act. Section 10 of the Rivers and Harbors Act requires permits for any work or structures in navigable waters of the United States, including wetlands within or adjacent to these waters. Both dredging and filling are regulated activities under the Act. Navigable waters are defined as those waters that are subject to the ebb and flow of the tide, or that are presently, have been, or may be used for transport of interstate or foreign commerce.

The Clean Water Act is a broad statute with the goal of maintaining and restoring waters of the United States. Among many provisions for the control of water pollution, the Clean Water Act also requires permits for filling of or discharge of dredged materials into waters of the United States. Section 404 of the Clean Water Act establishes a permit program for the discharge of fill or dredged material into waters of the United States. Waters of the United States include navigable waters, interstate waters, and all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries of any of these waters, and wetlands that meet these criteria or that are adjacent to any of these waters or their tributaries.

8. VISUAL RESOURCES

The pipeline route from the new pump station at the CCWRP to the new water tank will for the most part follow along existing road right-of-ways as shown in Figure I-2. This area of pipeline will be trenched within a 10-foot wide, approximately 3,000- foot long easement along the part of the Gypsy Hill pipeline in open hillside (not in Clarendon Road). An additional 10-foot wide temporary construction easement will be required on either side of the existing easement for equipment access, for a total width of 30 feet.

In the areas of the proposed 17,000 lineal feet of new pipeline which will be installed in existing road rights-of-way, no natural lands will be disturbed. The new pipe will be set in typical utility trenches approximately 4 ½ feet deep by 3 feet wide, and buried. Thus, there will be no visual impacts from the trenching. As the pipeline construction within the open space area is temporary and any trees removed will require tree replacement in accordance with the City's tree Protection Ordinance, this action is not considered significant.

Highway 1 is not a designated State Scenic Highway in the project area. The Scenic Highway designation for Highway 1 in San Mateo County is limited to the portion located south of Half

Moon Bay to the Santa Cruz County line, a distance of at least 12 miles from the project site. No portion of the project area is visible from any section of a designated state scenic highway. However, Highway 1 is designated as a scenic resource in the City of Pacifica's General Plan/Local Coastal Plan.

The project includes the installation of submersible pumps, booster pump station, electrical building and chemical building at the CCWRP adjacent to the existing filter building. The submersible pumps will be sited within the existing filter building.

The water tank will be located on NCCWD property adjacent to an existing 4.0 million gallon NCCWD water tank (120 feet in diameter) on Gypsy Hill. The entire Gypsy Hill site is surrounded by mature stands of eucalyptus trees which block views to and from the site. The portion of the pipeline easement between Gypsy Hill Road and Clarendon consists of natural vegetation and is shared with an overhead power line (see Photo 4).

Photo 4: Portion of pipeline easement between Gypsy Hill Road and Clarendon Road with overhead powerline.

9. NOISE

Ambient Noise Levels

Noise is generally defined as unwanted sound. Sound levels are usually measured and reported in decibels (dB), a unit which describes the amplitude, or extent, of the air pressure changes which produce sound. The A-weighted sound level or dBA is an adjusted or weighted measure of sound that corresponds to human hearing since the human ear cannot perceive all pitches or

frequencies equally well. The equivalent sound level (Leq) is used to describe noise levels over extended periods of time, unlike the dBA, which describes a noise level at just one moment.

The significance of a noise increase largely depends on ambient noise levels and whether the noise is permanent and ongoing (operational noise), or temporary and limited (construction noise). A 3 dBA increase is barely perceptible and a 6 dBA increase is clearly audible. An audible increase in noise is generally significant if the proposed project activity causes noise standards to be exceeded. Generally short-term noise related to construction that is limited to daytime hours is acceptable under the noise ordinance, and is the case with the City of Pacifica.

Ambient noise in the City of Pacifica is characterized as relatively quiet, with the major noise sources along the pipeline route being the vehicles that traverse Highway 1. Ambient noise is also produced from overflights from San Francisco International Airport, about five miles to the east. The ambient noise levels were not measured for this project, but are estimated to be 75dB at Highway 1 based on data from other environmental documents prepared in the City. .

Sensitive Receptors

Sensitive noise receptors are identified as those uses such as residences, hotels, motels, hospitals, schools, churches, libraries, and parks where a quiet environment is essential. There are no sensitive receptors in close proximity to the pump station or the water tank site at Gypsy Hill (refer to Figure II-2). For the most part, the pipeline avoids sensitive receptors, except where it traverses through or next to residential areas in Fairmont Park, Promanade Park, and where it turns east and traverses up Gypsy Hill to the water tank site (refer to Figure II-2).

10. ENVIRONMENTAL JUSTICE

Executive Order 12898, Environmental Justice, requires that review of proposed federal actions analyze any disproportionately high and adverse environmental or human health impacts on minority and low-income communities. No disproportionately high or adverse environmental or human health effects on minority or low-income communities have been identified for this project.

11. TRANSPORTATION AND TRAFFIC

The City of Pacifica is built along Highway 1 that runs in a generally north to south direction through the City. The CCWRP is located just off of Highway 1, on the west side of the Highway, and is accessed from Reina del Mar. After exiting the CCWRP, the pipeline route will go north and then east out to Highway 1, then north on the west side of Highway 1 to Bradford Way, then to Francisco Boulevard, Oceana Boulevard and Clarendon Road (See Figure II-2).

12. RECREATION

The purpose of the WRP is to provide low cost water to areas that require irrigation and where non-potable water can safely be used. The recycled water will be provided to several areas used for recreation including the Sharp Park Golf Course, Promenade Park, and the ball fields at Lacy Middle School and Oceano High School (See Figure II-2).

13. INDIAN TRUST ASSETS

Indian Trust Assets (ITAs) are legal interests in property held in trust for Indian tribes or individuals by the United States. It is Reclamation's policy to protect ITAs from adverse impacts resulting from its programs and activities. According to Patricia Rivera, Native American Affairs

Coordinator for Reclamation, there are no Indian trust assets in the project area. The nearest ITA is Lytton Rancheria, which is approximately 23 miles NE of the project location.

B. ENVIRONMENTAL CONSEQUENCES

Summary of Environmental Consequences

Element	No Action Alternative	Proposed Action
Air Quality	L	L
Biological Resources	L	M
Cultural Resources	L	M
Geology and Soils	L	L
Hazardous Materials	L	L
Hydrology and Water Quality	L	L
Land Use	L	L
Visual Resources	L	L
Noise	L	L
Environmental Justice	L	L
Transportation and Traffic	L	L
Recreation	L	L
Indian Trust Assets	L	L
Cumulative Impacts	L	L

\+ Positive Environmental Effects
L Less than Significant Environmental Effects
M Mitigated to less than Significant Effect
S Significant Environmental Effect

14. PROPOSED ACTION

a. Air Quality

The project includes the construction of the pump station, installation of water pipelines, and construction of the water storage tank. Short-term and temporary construction related impacts would occur and in the long-term the pump station will operate as needed to move recycled water to the water storage tank. The project will not result in new population growth or inconsistencies with the existing air quality management plan for the region. The project will not conflict with nor obstruct implementation of air quality plans; thus, no impact will occur. The project will not produce long-term vehicular transportation impacts or stationary source emissions that could impede implementation of the California Clean Air Act.

Construction equipment emits carbon monoxide and ozone precursors, which may affect localized air quality on a short-term basis during construction. However, because the project is small, construction emissions will not significantly contribute to violation of any air quality standard or significantly contribute to an existing or projected air quality violation. Construction emissions have been included in the emission inventory that is the basis for the regional air quality plans and are not expected to impede attainment or maintenance of ozone and carbon monoxide standards in the Bay Area (BAAQMD 1999).

Project construction will result in disturbance and/or construction on approximately 4.5 acres over 3 to 5-month period. According to BAAQMD CEQA Guidelines, projects that implement all of the control measures for construction activities as identified in the Guidelines (Table 2 of BAAQMD CEQA Guidelines, April 1996) will not result in a significant impact (Bay Area Air Quality Management District, April 1996). The project proposes implementation of BMPs to adhere to BAAQMD requirements. These BMPs are listed in Section II.B.3. of this document.

Dust (PM_{10}) is the other air quality issue related to construction. The BAAQMD has identified a set of feasible PM_{10} control measures for construction activities. These measures are incorporated into the project (see Section II. B. 3). These BMPs, if properly implemented, will ensure that construction-related air quality emissions adhere to BAAQMD requirements.

The project will cause carbon monoxide and dust emissions during construction, which are already included in the emission inventory that is the basis for the regional air quality plans within the Bay Area Air Quality Management District. Given the short-duration, the nature of construction activities and implementation of BMPs, consistent with BAAQMD guidelines, the project will not significantly contribute to existing or projected air quality violations, and thus, will not result in a cumulatively considerable net increase for ozone or PM^{10}, or expose sensitive receptors to substantial pollutant concentrations.

The project will not result in an increase in population or result in a new source of stationary or ongoing permanent mobile emissions. Given the short duration, the nature of construction activities and implementation of BMPs to control dust that are consistent with BAAQMD requirements (as listed above in Section II. B. 3), the project will not expose sensitive receptors to substantial pollutant concentrations.

There are homes adjacent to the Gypsy Hill Tank site and tank feed pipeline alignment. However, the recycled water pipeline project and new water tank will not result in the generation of odors. The CCWRP uses UV light for disinfection in the tertiary stage of treatment, rather than chlorination. This use of UV light does not have an appreciable odor that would be detectable. Therefore, there would not be air quality impacts generated by the implementation of this project.

b. Biological Resources

Habitats with the potential to support or be used by special-status species occur within or adjacent to the Project Area. Implementing project activities has the potential to result in take of federally-listed California red-legged frog and San Francisco garter snake. Ground disturbance and removal and/or trimming of trees and shrubs has the potential to impact nesting birds, including several special-status species. San Francisco dusky-footed woodrats have potential to nest within the Gypsy Hill storage tank pipeline alignment.

The WRP SIS/MND identified potential impacts to biological resources, and included the following mitigation measures:

Impact BIO-1 (Gypsy Hill Pipeline Route and Tank Site): Potential nesting trees for raptor and passerine species occur within and adjacent to the pipeline segment from Clarendon Road to Gypsy Hill and at the Gypsy Hill tank site. These birds could be adversely affected if construction occurs during nesting season (February 1 through August 31 of any given year).

Mitigation Measure BIO-1: If construction activities along the Clarendon Road to Gypsy Hill pipeline segment or at the Gypsy Hill tank site cannot occur outside of the nesting season (February 1 through August 31 of any given year), the NCCWD shall retain a qualified biologist to conduct a pre-construction survey for nesting birds not more than 14 days prior to the start of construction activities. Surveys shall be conducted within the trees that have potential habitat (those that are located within 250 feet of the pipeline segment and at the Gypsy Hill tank site). If nesting birds are found, the project could be delayed until after nesting is completed. Work may occur if an adequate buffer, as determined by a qualified biologist in consultation with California Department of Fish and Game (CDFG), can be established between the construction activity and the nest. Typically CDFG requires a 50 foot buffer for passerine nests and a 250 foot buffer for raptor nests.

Effectiveness:	Implementation of this measure will ensure that significant adverse impacts to nesting birds do not occur
Implementation:	NCCWD shall contract with qualified biologist
Timing:	Prior to and during construction
Monitoring:	The qualified biologist shall provide a report of monitoring results to the NCCWD and the City of Pacifica (as Responsible Agency)

Impact BIO-2 (Gypsy Hill Pipeline Route): The San Francisco dusky-footed woodrat habitat exists within this corridor. If San Francisco dusky-footed woodrat nests are within 250 feet of the project site, construction activities may adversely affect this species.

Mitigation Measure BIO-2: A preconstruction survey for woodrat nests shall be conducted by a qualified biologist. If nests are found within 250 feet of the project site, the biologist shall determine if the nest is active and consult CDFG to determine the currently approved measures to avoid disturbance or relocate an active nest. The contractor for the NCCWD shall implement the recommendations of the biologist.

Effectiveness:	Implementation of this measure will ensure that significant adverse impacts to San Francisco dusky-footed woodrats do not occur
Implementation:	NCCWD shall contract with a qualified biologist
Timing:	Prior to and during construction
Monitoring:	NCCWD; the qualified biologist shall provide a report of monitoring results to the NCCWD and the City of Pacifica (as Responsible Agency)

Impact BIO-3 (CCWRP Site). The USFWS has determined that the following actions may result in take of CRF and SFGS:

1) Temporary disturbance of 0.11 acres of upland habitat from construction of the proposed activity;

2) Harassment associated with construction (noise and vibration) of the proposed action of all CRF and SFGS within the action area; and

3) Harassment of CRF and SFGS (either directly or by affecting their food sources and habitat) in the action area due to increased predation and invasion of non-native plant species.

The USFWS issued construction-related avoidance measures for CRF and SFGS as part of the Biological Opinion (USFWS 2009). These measures are included in mitigation measure BIO-3, below.

Mitigation Measure BIO-3: The NCCWD shall adopt and incorporate the Construction-Related Measures, and the Terms and Conditions from the USFWS Biological Opinion.

The following are the Conservation Measures from the USFWS Biological Opinion:

- To the extent feasible, work will occur between May 1 and November 1 to avoid the mating and breeding period(s) of CRF and SFGS.
- No more than two weeks prior to the start of construction, a USFWS-approved biologist will survey the pipeline alignment and areas on and around the new pump station for California red-legged frogs, San Francisco garter snakes, and their habitat. The name

and credentials of biologists shall be submitted to USFWS for approval at least 15 days before commencement of work.

- A qualified biologist shall conduct a training session for all construction personnel involved in installation of the pipeline along Francisco Boulevard and at the CCWRP during construction of the pump station and installation of the new pipe. At a minimum, the training shall include a description of the species and their habitat, the importance of the species and its habitat, the general measures that are being implemented to conserve the California red-legged frog and San Francisco garter snake as they relate to the project, and the boundaries within which the project may be accomplished.
- A qualified biologist shall be present at the active work sites along Francisco Boulevard and at the CCWRP during construction of the pump station and installation of the new pipe. The monitoring biologist shall have the authority to temporarily stop work if CRF, SFGS, or their habitats are at risk.
- During work activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas. The monitoring biologist will inspect the work site at the beginning and end of each work day to ensure all trash and debris have been properly contained.
- All trenches, pits, or open areas will be backfilled or plated at the end of each work day to prevent individual frogs and snakes from becoming trapped. The monitoring biologist will check all open areas each morning for entrapped wildlife. No work shall begin until the biological monitor has inspected the open areas.
- All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 20 meters from riparian habitat or water bodies. The NCCWD shall ensure that contamination of habitat does not occur during such operations. Prior to the start of construction, the NCCWD and its contractor will prepare a spill prevention plan that will prompt and effective response to any accidental spills.
- Exclusionary fencing (silt fencing or other appropriate materials) will be installed where frog and snake habitat occurs along the western side of the work area between during active work sites to prevent individual frogs and snakes from entering the work area.
- Upon completion of construction, all areas temporarily disturbed during pipeline installation will be restored. All areas will be returned to pre-project conditions, including topography, hydrology, and vegetation community composition. After the pipe has been installed, the work area will be backfilled and the soil compacted to reduce the potential for erosion. The work site will be hydroseeded to further prevent erosion. The work areas will also be restored using native riparian vegetation, according the Mitigation and Monitoring Plan (MMP) currently being developed for the project.

The following are Terms and Conditions from the USFWS Biological Opinion:

- A qualified biologist shall be on site during all activities that may result in the take of CRF and SFGS. The qualifications of the biologist(s) must be presented to the USFWS for review and written approval at least ten working days prior to ground-breaking at the project site.
- The training session for construction personnel shall include an explanation of the status of these species and their protection under the ESA, and associated consequences of non-compliance with this opinion. Documentation of the training, including the original sign-in sheets, shall be submitted to the USFWS within 10 working days of completion of the class.
- The boundaries of the construction area of the proposed action and adjacent CRF and SFGS habitat shall be clearly delineated with highly visible four foot tall orange plastic fencing to prevent workers or equipment from entering the adjacent habitat. All

construction personnel, equipment, and activities will be confined to designated construction and staging areas. Exclusionary fencing will be attached to the outside of the orange fencing. The exclusionary fencing will consist of silt fencing buried 6 inches below grade, or sealed in a manner to prevent incursion under the fence. The fencing shall be inspected and maintained daily until completion of the project. The fencing will be removed only when all construction equipment is removed from the site. No project activities will occur outside the delineated project construction area.

- As determined by the USFWS and/or CDFG, the applicant shall incorporate water pollution control practices for soil stabilization, sediment control, wind erosion control, tracking control, non-storm water management, and waste management and materials pollution control.
- No more than 30 minutes prior to initial ground disturbance, pre-construction surveys shall be conducted by the USFWS-approved biologist for CRF and SFGS. These surveys shall consist of random walking surveys of the project and appropriate adjacent areas accessible to the public to determine presence of the species. The monitor will document the results of all project-related monitoring on log sheets, which will be kept on file and made available for the USFWS and CDFG upon request.
- Plastic mono-filament netting or similar material shall not be used at the proposed project site as CRF and SFGS may become entangle or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. Prior to the start of daily construction activities during initial ground disturbance, the biological monitor will inspect the perimeter fence to ensure that it is neither ripped nor has holes and that the base is still buried. The fenced area will also be inspected to ensure that no frogs or snakes are trapped in it. Any CRF or SFGS found along and outside the fence will be closely monitored until they move away from the construction area. All compromised portions will be repaired and or replaced immediately. Upon completion of the project, all fencing material will be removed from the site and disposed of property.
- The approved biologist shall move any CRF or SFGS observed within the construction area or other area where they may be harasses, injured, or killed by the proposed action to a safe location within walking distance of the location where it was found; if possible CRF will be allowed to disperse on their own volition. No individuals shall be moved to a location where the landowner or applicant has not been advised and has not given their consent regarding the release. The individual animal shall be monitored by the biologist until it has been determined that it is not imperiled by predators or other dangers. Capture of SFGS is not authorized for this proposed action.
- Permanent disturbances and other types of proposed action-related disturbance to the habitats of CRF and SFGS shall be minimized to the maximum extent practicable by the applicant. To minimize disturbances, all proposed action-related vehicles traffic shall be restricted to established roads, construction areas, and other designated areas. These areas also should be included in pre-construction surveys and, to the maximum extent possible, should be established in locations disturbed by previous activities to prevent further adverse effects.
- Vehicles shall observe a 15 mph speed limit within non-highway/road construction areas. To the maximum extent possible, night-time construction should be minimized. Off-road traffic outside of designated project areas shall be prohibited.
- All grindings and asphaltic-concrete waste shall be stored within previously disturbed areas absent of habitat and at a minimum of 150 feet from any culvert or drainage feature.
- To avoid injury or death of CRF or SFGS, no firearms shall be allowed on the immediate project site except for those owned by the landowner, carried by security personnel or law enforcement officials.
- Pets will be prohibited from entering the project area.

- Use of rodenticides and herbicides on the project shall be utilized in such a manner to prevent primary or secondary poisoning of listed species and depletion of pretty populations on which they depend.
- To minimize the effects of artificial lighting (if used) on CRF and SFGS, NCCWD will ensure that all lighting be pointed downward and shielded to minimized spillover into surrounding habitat areas. The lowest practicable wattage will be used in lighting devices to limit the quantity of artificial light entering riparian and wooded areas while still maintaining the safety of construction crews. Where possible, orange colored lighting will be used in place of incandescent lights.
- NCCWD will compensate for temporary affects to 0.11 acre at a 1.1:1 ratio by returning the topography of the construction site to preconstruction conditions and enhancing the site by planting a native grassland seed mix within a single season. Invasive species within the area will be removed by hand tools and replanted with the appropriate native upland vegetation. All native plantings will be monitored for a minimum of one year to ensure successful establishment of native upland species.
- To minimize disturbance of SFGS and CRF due to mowing, mowing will be restricted to the first two weeks of April or between June 1 and August 31.If mowing occurs during the first two weeks of April, a qualified biologist will walk in front of the mower to survey for the presence of CRF or SFGS that may be affected by mowing. If CRF of SFGS are observed, they will be moved to the nearest suitable habitat out of harms way, or work will stop and the animal will be monitored until it moves out of harms way. Mowing will not reduce vegetation to less than 6 inches.

Effectiveness:	Implementation of this measure will ensure that significant adverse impacts to CRLF and SFGS do not occur
Implementation:	NCCWD shall contract with qualified biologist
Timing:	Prior to and during construction
Monitoring:	The biological monitor shall provide a report of monitoring results to the NCCWD and the City of Pacifica (as Responsible Agency)

c. Cultural Resources

The recycled water pump station will be installed at the existing CCWRP. This site was excavated during the construction of the CCWRP in 1996. Therefore no impacts are anticipated to historical resources as a result of the project. The tank feed pipeline to the Gypsy Hill will be located within existing road rights-of-way and within NCCWD easements and NCCWD owned property. No historical resources were identified in the cultural resources survey, therefore, no impacts to historical resources are anticipated as a result of the project.

The Holman report states that the new Gypsy Hill Tank for potable water is already in place in a graded pad/terrace on the south-facing slope of the hill. A new 55-foot diameter round tank for the recycled water line will be constructed within the existing graded and fenced zone around the new potable water tank, at the south side of the larger potable water tank; installation of the new recycled tank will cause no additional impacts to undisturbed hillside. The chances that construction of the potable water tank will impact cultural resources is very low, given the previous disturbance of the area (a previous larger potable water tank was removed), the slope, and the mostly eucalyptus tree cover of the location.

Impact CUL-1. The current project design for the pump station and water distribution lines seeks to avoid impacts to the large deposit of prehistoric archaeological material adjacent to the CCWRP by implementing the following avoidance measures:

- the proposed 12 inch water line from the existing pumping plant to the exit road at Route 1will be placed in existing engineered fill that was prepared for the road; and

- the fill used to build the existing roadway is of sufficient depth to allow the placement of the recycled pipeline in the fill layer. However, impacts to SMA 268 could still occur, since the edge of this site is within 10 feet of the pump station, and is located within 15 feet of the existing road to the CCWRP.

Therefore, the following mitigation measure will apply:

Mitigation Measure CUL-1. Prior to the initiation of construction or ground-disturbing activities, the District's contractor shall fence the perimeter of archaeological site SMA 268 and inform all construction personnel of excavation limits.

Effectiveness:	Implementation of this measure will ensure that significant adverse impacts to cultural resources do not occur.
Implementation:	NCCWD
Timing:	During a pre-construction field meeting with contractors
Monitoring:	NCCWD, sign-off in the Mitigation Monitoring and Reporting plan once the meeting has been conducted.

As stated above in the Affected Environment portion of this section, no significant archaeological resources were recovered in the geoprobe testing along the distribution pipeline and a walking archaeological survey along the tank feed pipeline alignment and at the Gypsy Hill tank location. With the exception of the westernmost portion of Clarendon Road, the proposed pipeline route to the Gypsy Hill Tank is of very low archaeological sensitivity. However, construction of the proposed project, involves trenching so could reveal as yet unknown prehistoric or historic archaeological resources along the Gypsy Hill pipeline route. Therefore, the following mitigation measures are proposed.

Impact CUL-2: Construction of the proposed project could reveal as yet unknown prehistoric or historic archaeological resources along the Gypsy Hill pipeline route, or at the Gypsy Hill tank site.

Mitigation Measure CUL-2: Prior to the initiation of construction or ground-disturbing activities, the NCCWD Project Manager and a qualified archaeologist shall conduct a tailgate meeting to inform all construction personnel of the potential for exposing subsurface cultural resources and to recognize possible buried cultural resources.
Personnel shall be informed of the procedures that will be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains and their treatment.

Effectiveness:	Implementation of this measure will ensure that significant adverse impacts to cultural resources do not occur.
Implementation:	NCCWD
Timing:	During a pre-construction field meeting with contractors
Monitoring:	NCCWD, sign-off in the Mitigation Monitoring and Reporting plan once the meeting has been conducted.

Mitigation Measure CUL-3: Construction documents shall contain a "stop work provision" stating that upon discovery of possible buried prehistoric and historic cultural materials (including potential Native American skeletal remains)[1], work within 10 meters (30

1 Significant prehistoric cultural resources may include:
a. Human bone – either isolated or intact burials
b. Habitation (occupation or ceremonial structures as interpreted from rock rings/features, distinct ground depressions, differences in compaction (e.g., house floors)

feet) of the find shall be halted and the NCCWD Project Manager shall be notified. The Project Manager shall then retain a qualified archaeologist to review and evaluate the find. The qualified archaeologist shall notify the lead NHPA Federal Agency of any late discoveries so that 36 CFR Part 800.13 may be implemented. Construction work shall not begin again until the archaeological or cultural resources consultant has been allowed to examine the cultural materials, assess their significance, and offer proposals for any additional exploratory measures deemed necessary for the further evaluation of, and/or mitigation of adverse impacts to, any potential historical resources or unique archaeological resources that have been exposed.

If the discovery is determined to be a unique archaeological or historical resource, and if avoidance of the resource is not possible, the archaeologist shall inform the Project Manager of the necessary plans for treatment of the find(s) and mitigation of impacts. The treatment plan may be designed to result in the extraction of sufficient non-redundant archaeological data to address important regional research considerations. The Project Manager shall insure that the treatment program is completed. The work shall be performed by the archaeologist, and shall result in a detailed technical report that shall be filed with the California Historical Resources Information System, Northwest Information Center, CSU Rohnert Park. Construction in the immediate vicinity of the find shall not recommence until treatment has been completed. If human remains are discovered, they shall be handled in accordance with State law including immediate notification of the County Medical Examiner/Coroner.

In addition, the contract documents shall recognize the need to implement any measures or conditions required to comply with 36 CFR Part 800.13. In general, the appropriate construction conditions should be included within the General Conditions section of any contract that has the potential for ground disturbing operations.

Effectiveness:	Implementation of the stop work order provision during construction will prevent significant impacts to cultural resources by halting construction before damage is done and allowing the resources to be documented
Implementation:	NCCWD shall include this measure in project plans and specifications. This measure shall be incorporated into building permit plans and construction contracts; NCCWD shall implement these measures
Timing:	Measures shall be in evidence in project plans prior to the start of construction.
Monitoring:	NCCWD by inclusion in project plans and construction documents; the archaeologist shall provide a report of the evaluation results to the NCCWD

c. Artifacts including chipped stone objects such as projectile points and bifaces; groundstone artifacts such as manos, metates, mortars, pestles, grinding stones, pitted hammerstones; and shell and bone artifacts including ornaments and beads.
d. Various features and samples including hearths (fire-cracked rock; baked and vitrified clay), artifact caches, faunal and shellfish remains (which permit dietary reconstruction), distinctive changes in soil stratigraphy indicative of prehistoric activities.
e. Isolated artifacts

Historic cultural materials may include finds from the late 19th through early 20th centuries. Objects and features associated with the historic period can include:

a. Structural remains or portions of foundations (bricks, cobbles/boulders, stacked fieldstone, postholes, etc.).
b. Trash pits, privies, wells and associated artifacts
c. Isolated artifacts or isolated clusters of manufactured artifacts (e.g., glass bottles, metal cans, manufactured wood items, etc.
d. Human remains

In addition, cultural materials including both artifacts and structures that can be attributed to Hispanic, Asian, and other ethnic or racial groups are potentially significant. Such features or clusters of artifacts and samples include remains of structures, trash pits, and privies.

Mitigation Measure CUL-4: Archaeological monitoring by a professional archaeologist on a full-time basis shall be undertaken during subsurface construction near the Sharp Park Golf Course area (for the distribution pipeline alignment), and other sites, as recommended in the National Historic Preservation Act Section 106 Compliance Report currently being prepared by a consultant for this project.

Actions that potentially require monitoring by an archaeologist are any ground disturbing activities including, but not limited to, pipeline installation and construction staging areas.

Effectiveness:	Implementation of archaeological monitoring during construction will prevent significant impacts by halting construction before damage is done and allowing the resources to be documented.
Implementation:	NCCWD shall include this measure in project plans and specifications. This measure shall be incorporated into building permit plans and construction contracts; NCCWD shall implement these measures.
Timing:	During any subsurface construction activities as designated by the National Historic Preservation Act Section 106 Compliance Report
Monitoring:	NCCWD; the archaeological monitor shall provide a report of monitoring results to the NCCWD and to the lead Federal Agency for NHPA compliance.

Impacts to cultural resources will be reduced to a less-than-significant level with the implementation the above mentioned mitigation measures.

d. Geology and Soils

The recycled water pump station, pipeline corridor and water tank site are all located in the seismically active San Francisco Bay Region. Significant earthquakes have occurred in the San Francisco Bay Area and are believed to be associated with crustal movements along a system of subparallel fault zones that generally trend in a northwesterly direction.

The Gypsy Hill tank site is also located in Pacifica, and as mentioned above, is an area subject to active seismic activity. It is reasonable to expect that a moderate to high magnitude earthquake in the San Francisco Bay Area will result in considerable ground shaking at the site. The Land/Marine Geotechnics geotechnical report prepared to address the seismic and other hazards (such as soil instability) for the placement of the potable water tank at the Gypsy Hill location concluded that the risk of surface faulting and consequent secondary ground failure is very low.

A review of available geologic maps for the project area indicate that none of the project elements are located within an Alquist-Priolo Earthquake Fault Zone. The nearest Alquist-Priolo Earthquake Fault Zone is found along Skyline Boulevard west of the Gypsy Hill tank site along the San Andreas Fault. It is about 1.5 miles away.

A geotechnical report for pipeline alignments was required by Mitigation Measure GEO-1 in the WRP Final Initial Study/Response to Comments, and that measure is still applicable to the project. The WRP SIS/MND included a mitigation measure that requires updates to the to the existing CCWRP pump station report and all recommendations will be incorporated into the construction plans and specifications.

Soil liquefaction is a phenomenon in which loose, saturated, cohesionless soils (silts and sands) below the water table are subject to a temporary, but essentially total loss of shear strength

under the reversing, cyclic-shear strains associated with earthquake shaking. The wastewater treatment plant site where the pump station is located and where the pipeline originates is situated on an area of combination artificial fill and marine terrace materials. According to the Rogers-Pacific geotechnical study for the 1994 Wastewater Treatment EIR, this geologic feature is "typically suitable for pipelines and light structures."

As stated above, the generalized soils located at the wastewater treatment plant site are predominantly terrace deposits, both natural and artificial marine terrace materials and fill materials. These soils are composed of a broad assortment of soil types including silty clays along wetlands and creeks, sandy loam and gravel along the Highway 1 corridor and loam within the canyon slope of Sanchez Creek. The underlying parent material is greenstone within the Franciscan formation (metasedimentary). Accordingly, the potential for liquefaction of these soils during the maximum credible earthquake is considered low.

Land/Marine Geotechnics evaluated the liquefaction potential of soil layers encountered in borings taken at the Gypsy Hill site and concluded that they are not susceptible to liquefaction. Bedrock exists at shallow depth and the overlying soils are generally stiff clays. In addition, the site is located at the top of a hill and groundwater was not encountered within the test borings. As a result, Land/Marine Geotechnics concluded that the potential for lateral spreading and for sand boils and lurch cracking at the ground surface are nil.

The majority of the pipeline route travels along existing roadways. The depth of pipeline alignment excavation is not expected to cause significant effects to any toe-slope or other geomorphic feature that could raise the potential for landslide processes anywhere along the pipeline construction corridor.

The Land/Marine Geotechnics report states that the Gypsy Hill site is currently blanketed by a layer of drain rock which consists of ¾ to 1 inch diameter gravel. The drain rock layer is about ¾ to 1 foot thick is underlain by stiff to very stiff clays and bedrock. The drain rock is suitable for reuse as a base for the new tank provided that the rock is densified using a vibratory drum compactor prior to tank construction. If grades need to be raised, additional drain rock can be added following compaction of the existing layer. It is anticipated that the soil and rock at the site can be excavated with a conventional backhoe or excavator.

The majority of the project site exhibits evidence of prior ground disturbance, which is likely associated with the grading operations for the highway, road construction and weed abatement practices. The majority of the project site consists of roadsides and roadways in relatively flat areas that do not have a high susceptibility to erosive processes. Most of the runoff generated from the site flows toward the adjacent perennial drainages or enters into stormwater systems. As stated above, the Land/Marine Geotechnics report states that the Gypsy Hill site is currently blanketed by a layer of drain rock which consists of ¾ to 1 inch diameter gravel. The drain rock layer is about ¾ to 1 foot thick is underlain by stiff to very stiff clays and bedrock. No erosion from the construction activities are expected to occur. In addition, construction of the water tank will require a construction permit from the Regional Water Quality Control Board and preparation of a SWPPP. This construction permit and SWPPP will contain measures to ensure that no erosion exceeding CEQA thresholds will occur.

According to the Geotechnical Engineering and Geologic Hazards Study prepared for the 1994 Wastewater Treatment Plan EIR, no significant deposits of loose, cohesionless soils exist beneath the pump station site.

As stated above, the Land/Marine Geotechnics report states that the Gypsy Hill site is currently blanketed by a layer of drain rock which consists of ¾ to 1 inch diameter gravel. The drain rock layer is about ¾ to 1 foot thick is underlain by stiff to very stiff clays and bedrock. Bedrock

exists at shallow depth and the overlying soils are generally stiff clays. In addition the site is located at the top of a hill and groundwater was not encountered within the test borings. No landslides, lateral spreading, subsidence or liquefaction are expected to occur.

It is expected that soils at the site are the same as those found in the Land/Marine Geotechnics report prepared for the adjacent newly built three million gallon potable water tank. The Land/Marine Geotechnics report states that the tank will be underlain by stiff clayey soils and bedrock which has moderate to low compressibility, respectively under the anticipated tank loads. The clayey fill and colluvial soils which underlie the west side of the tank pad are stiff to very stiff and have been consolidated under the load of the existing tank for many years. As a result, it is anticipated that future site settlement under the new tank loads will be small i.e. less than 1 inch. No special measures are recommended to mitigate tank settlement.

e. Hazardous Materials

To document and alleviate possible concerns about the use of recycled water for irrigating the public facilities in this project, a literature search on the use of recycled water and health hazards was prepared by TRA for the WRP IS/MND. The findings all point to the same conclusion: the tertiary treated (recycled) water is not a hazardous material and thus does not pose a health and safety hazard to children, adults, and/or the environment. Thus, no mitigation measures are needed.

The following is a summary of that literature search:

1. The California Department of Health Services (DHS)

The California Department of Health Services (DHS) regulates the health aspects of potential public contact with sewage effluent. Reclaimed water is regulated in accordance with the requirements of the Regional Water Quality Control Board (RWQCB) and with the Wastewater Reclamation Criteria (Title 22, Division 4, and Section 60301 through 60355) of the California Administrative Code. The purpose is to prevent direct ingestion of reclaimed wastewater by the public or the contamination of a public water supply.

Water used in the proposed recycled water project will comply with the most stringent water quality limitations for effluent listed in Title 22, those associated with non-restricted recreational impoundments. Jeff Stone of the Recycled Water Unit of the DHS states in a memorandum to Toby Roy and Brian Bernados of the San Diego District (Appendix D, The *Treatment Technology Report for Recycled Water*) “currently allowed uses of recycled water under the restricted use category include (but are not limited to) body contact recreation, irrigation of food crops and irrigation of parks, playgrounds and schoolyards. The Department considers a properly filtered and disinfected water meeting the tertiary 2.2 requirements to be essentially pathogen free.”

The *Treatment Technology Report for Recycled Water* (DHS, 2003) provides general guidance that is consistent with the Water Recycling Criteria and serves as the basis for DHS review and acceptance of treatment technologies for compliance with the filtration and disinfection requirements of the Criteria. As noted by Asano et al [(1)], "To achieve efficient virus removal or inactivation in tertiary treatment, two major criteria must be met: 1) the effluent must be low in suspended solids and turbidity prior to disinfection to prevent shielding of viruses and chlorine demand, and 2) sufficient disinfectant must be applied to the wastewater."

The same standards would apply if the water were to be used for the irrigation of parks, playgrounds, schoolyards or other areas where the public has similar access to the grounds, under Section60313 (b) of Title 22.

Summary of Issues of other Recycled Water Projects in California

The literature search included analysis of the *Addendum to the Mitigated Negative Declaration for the Redwood City Recycled Water Project*, prepared for the City of Redwood City (2003), According to this report, there is no data indicating that the proper use of recycled water for intended purposes has caused any illness or compromised human health in California.

This report listed two important pieces of data: 1) representative projects and their effects, and 2) analysis of the most common public health and safety concerns.

Representative Projects

The representative projects were selected because their location, climate type, land use, wastewater source, level of wastewater treatment, level of tertiary treatment, and recycled water uses are nearly identical to those proposed for Pacifica. The Addenda contains a table that summarizes the representative project compared and is listed in its entirety in Table III-1, below.

Table III-1. Comparison of Redwood City's Proposed Recycled Water Project to Representative Bay Area Recycled Water Projects

Parameters	**Marin Municipal Water District**	**South Bay Water Recycling/City of Santa Clara[1]**	**City of Sunnyvale**	**City of Palo Alto**	**SBSA Redwood City First-Step Project**
Years in Operation	20	14	15	15	3
Community Population	175,000	1,060,000	132,000	59,000	80,000
Capacity (AF/yr & MGD)	2 MGD 870 AF/yr	10 MGD 6,000 AF/yr	8 MGD 2,170 AF/yr	4 MGD	0.25 MGD 73 AF/yr (3.9 MGD or 1,946 AF/yr proposed)
No. of Existing Customers	318	390	80	3	12 (120 proposed)
Uses:					
Schoolyard Irrigation	X	X	X		
Park/Golf Course Irrigation	X	X	X	X	X
Streetscape Irrigation	X	X	X		X
HOA Irrigation	X	X			Proposed
Landscape Impoundments	X	X	X	X	X
Car Washes/Laundries	X				
Industrial Uses & Cooling	X	X	Proposed		Proposed
Internal Plumbing/Toilets	X	X	X		Proposed
Performance Criteria:					
No. of Permit Violations	none	none	none	none	none
No. of Reported Illnesses	none	none	none	none	none
No. of Successful	none	none	none	none	none

Parameters	**Marin Municipal Water District**	**South Bay Water Recycling/City of Santa Clara[1]**	**City of Sunnyvale**	**City of Palo Alto**	**SBSA Redwood City First-Step Project**
Lawsuits					
No. of Disconnects	none	none	none	none	none
No. of Landscape Failures	none	none	none	none	none
Initial Public Concerns/Resistance?	Yes	Yes	Yes	Yes	Yes

Analysis of the Most Common Public Health and Safety Concerns

There are four significant issues that cause the most public concern: 1) risk from pathogens; 2) presence of pharmaceuticals and endocrine disruptors in the recycled water; 3) presence of carcinogenic compounds in the recycled water; and 4) hazardous exposure to children. Each of these concerns is discussed below, in the following format:

- Identification of the issue, with the author
- Identification of Public Concern; and
- Findings

1) Risk from Pathogens (James Crook, Ph.D., P.E.)

Statement of the Issue: Will use of recycled water for landscape irrigation project present a public health risk to the community from microbiological contaminants?

Public Concern: Recycled water used for landscape irrigation may contain pathogenic microorganisms that are harmful to humans.

Findings: Pathogens are present in untreated municipal wastewater but can be reduced to immeasurable levels by conventional wastewater treatment processes. There have been no documented cases of illness in California (or elsewhere in the U.S.) resulting from the use of recycled water to irrigate urban areas. Refer to Appendix E, *Addendum to the Mitigated Negative Declaration for the Redwood City Recycled Water Project*, for further details.

2) Potential Presence of Pharmaceuticals and Endocrine Disruptors in Recycled Water (James Crook, PhD, P.E.)

Statement of the Issue: Do pharmaceuticals and endocrine disruptors present a health risk if recycled water is used for landscape irrigation?

Public Concern: Recycled water used for landscape irrigation may contain pharmaceutically active compounds and endocrine disruptors that could be harmful to humans.

Findings: Pharmaceuticals and endocrine disruptors in water have been shown to have adverse effects on aquatic animals. Human health effects associated with long term ingestion of these types of compounds, at the low concentrations potentially present in drinking water, have not been documented and are uncertain at this time. Contact with, or infrequent/inadvertent ingestion of tertiary treated recycled water containing low levels of pharmaceuticals and endocrine disruptors would appear to present substantially less risk than that associated with long term ingestion of drinking water containing similar levels of such

substances. Refer to Appendix F, *Addendum to the Mitigated Negative Declaration for the Redwood City Recycled Water Project*, for further details.

3) Potential Presence of Carcinogenic Compounds in Recycled Water (James Crook, Ph.D., P.E.)

Statement of the Issue: Do carcinogenic compounds present a health risk if recycled water is used for landscape irrigation in an urban area?

Public Concern: Recycled water used for landscape irrigation may contain carcinogenic compounds that are harmful to humans.

Findings: Several disinfection byproducts, such as the trihalomethanes, and other chemical contaminants are known to be carcinogenic upon long-term ingestion; however, a review of the literature provides no indication that they have been implicated as having any adverse effects resulting from nonpotable uses of recycled water, such as landscape irrigation. Most of these contaminants are present in tertiary treated wastewater at levels that are lower than maximum contaminant levels specified in drinking water standards. Fears of chronic health effects (associated with long term ingestion of water containing DBPs or other carcinogens) are unfounded for recycled water projects directed at nonpotable applications of the water, since there will be no long term ingestion of the recycled water. Refer to Appendix E, *Addendum to the Mitigated Negative Declaration for the Redwood City Recycled Water Project*, for further details.

4) Exposure of Hazardous Risks to Children (James Crook, Ph.D., P.E.)

Statement of the Issue: Does the use of recycled water used for landscape irrigation present risks to children?

Public Concern: Recycled water used for landscape irrigation may contain microbial pathogens or chemical contaminants that are harmful to children.

Findings: The recycled water from the CCWRP wastewater treatment plant is subject to strict criteria to insure that it will not contain measurable levels of pathogenic microorganisms. Data from the CCWRP facility indicate that all requirements are consistently met. Children's activities that may result in contact with the recycled water are expected and the water quality criteria to be met take this into account. A review of the scientific literature did not provide any documentation of illness or disease to children (or adults) resulting from any recycled water landscape irrigation project in the U.S. Refer to Appendix E, *Addendum to the Mitigated Negative Declaration for the Redwood City Recycled Water Project*, for further details.

Neither the construction nor the operation of the recycled water project would create significant hazards to the public from the release of hazardous materials. As described above, the tertiary treated water is not considered a hazardous substance and in fact is safe for aquatic organisms to live in. Although public swimming is not recommended in the treated wastewater, public contact with the water poses no health risk.

The project involves locating and constructing a recycled water pump at the CCWRP, construction of a water storage tank at the NCCWD's Gypsy Hill property, and associated tank feed pipeline. The project will not result in the use or transport of any hazardous materials, substances or waste, except those used during construction. Proper handling of these materials is addressed through the use of BMPs as outlined in Chapter II.B. 4. of this document. The closest schools to the sites are Ingrid B Lacy Middle School/ Sharp Park Elementary School, at 1427 Palmetto Avenue, Ocean Shore School, at 411 Oceana Blvd., and Oceana

High School at 401 Paloma Avenue. Ocean Shore School is located approximately 3.0 miles from the Gypsy Hill site (which is closer to the school than the CCWRP site); Ingrid B. Lacy Middle School/Sharp Park Elementary School is located approximately 2.0 miles from the Gypsy Hill site (which is closer to the school than the CCWRP site), and Oceana High School is located approximately 1.5 miles north of the CCWRP and about 0.5 miles north of the Gypsy Hill tank and pipeline location.

Neither the pump station site, water tank site, or pipeline alignments are located on a hazardous material site (California Department of Toxic Substances Control EnviroStor Database (Cortese List) (http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm)).

The project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan as the physical structures proposed to be built will be located underground (including pipeline) or at the NCCWD property on Gypsy Hill.

This project will not result in increased wildfire threat and will not change exposure to wildland fires because it will not increase the amount of brush for fuel or place housing near such areas.

f. Hydrology and Water Quality

BMPs incorporated into the project, that are listed in Section II.B.4, will ensure that construction-related impacts to water quality do not violate any water quality standards or waste discharge requirements. A construction general permit which includes preparation of a Storm Water Pollution Prevention Plan (SWPPP) incorporating BMPs is also required from the Regional Water Quality Control Board and would be prepared by the NCCWD.

No elements of the project will deplete groundwater supplies as none of the areas are locations where groundwater recharge occurs (the Gypsy Hill tank location is on a portion of a larger ridge.) The pipeline installation will not prevent groundwater from percolating below it. There will not be any runoff since the treated effluent will be applied only during the dry season when there is a water deficit, and no runoff. It is anticipated that the recycled water will provide all of the irrigation requirements at the irrigation sites.

Neither organic forms of phosphate nor orthophosphate contaminates groundwater and orthophosphate is readily absorbed by surface soils. Although the levels of phosphate applied with the tertiary effluent will be up to 5 times the levels currently applied to the fairways, the phosphate should not result in adverse biostimulation of the waterways.

The project will not alter existing drainage patterns such that substantial erosion or siltation will occur on or off-site. The recycled water will be piped from the CCWRP directly into the distribution pipeline or to a water tank on Gypsy Hill for storage and then into the piped irrigation system. The BMPs employed during the construction phase of the project will ensure that excavation for construction will not cause substantial offsite siltation. These BMPs are listed in Chapter II.B.3 of this document.

Construction at the tank site will not involve substantial alterations of the existing drainage pattern of the site or area. All pipeline trenches and areas of ground disturbance will be restored to original grade, maintaining pre-construction drainage characteristics. No additional impermeable surfaces are proposed that will result in flooding, on- or off-site. There will be a small increase the amount of impermeable surfaces for the actual footprint of the tank, however, this area is small (55 feet in diameter, or approximately 3,000 square feet) and will not result in on-or off-site flooding.

The recycled water will be piped from the CCWRP through a series of pipelines to the site of the irrigation lands. Since the water can be turned on and off at various places, including its source and at the water tank, and since irrigation water is to be supplied during the dry season, no recycled water will be entering storm water facilities during time when the storm water system is running at capacity. Only excess irrigation water would enter storm water facilities and only when irrigation water is actively being used (i.e. during the dry season, and not during times when rainfall events are common).

BMPs to prevent erosion during construction and preparation of a SWPPP (as required for the Regional Water Quality Control Board Construction Permit) will prevent impacts from polluted runoff. Normal operation of the tanks and pipeline will not result in polluted runoff. No mitigation measures are thus necessary.

g. Land Use

City of Pacifica General Plan and Local Coastal Plan

The City does not have General Plan or Coastal Act policies which directly address the proposed project of recycled water pipeline and water tank installation and use of recycled water in public landscaping projects, including Sharp Park Golf Course. One of the Local Coastal Plan policies addresses the protection of biological and coastal resources that is related to the wetlands at Calera Creek (within the City's Local Coastal Plan jurisdiction) (LCP Policy 12, see also Section III-4, Biology, above), and one of the Community Design Element Policies addresses the City's scenic and visual amenities, which include Highway 1, a State-designated Scenic Highway. These policies and conformance of the proposed project are discussed below.

LCP Policy 12

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of wastewater discharge and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Conformance: This project conforms to LCP Policy 12. The project removes no native or wetland vegetation, while removing only heavily disturbed habitats dominated by nonnative herbaceous species. These habitats are judged to have low function and value and hence do not meet LCP criteria. The project area does have wetlands meeting LCP criteria. There are no natural streams, estuaries, or lakes affected by the project. All surface storm water runoff from the project area within the LCP will be directed to the City's storm water drainage system. This water is discharged through the CCWRP which treats the water prior to discharge to the ocean.

Community Design Element Policy 3

Protect the City's irreplaceable scenic and visual amenities.

Conformance: The project pipeline that will traverse Highway 1 will be completely undergrounded. Thus, the project pipeline is in conformance with this policy. The construction phase of water tank will not be seen by any sensitive receptors.

Community Design Element Policy 3

Protect the City's irreplaceable scenic and visual amenities.

Conformance: The project pipeline that will traverse Highway 1 will be completely underground. Thus, the project pipeline is in conformance with this policy. The water tank will not be seen by any sensitive receptors. The City's development permit process requires the submission of a Tree Protection Plan to protect the four affected trees classified as Heritage under the City's Heritage Tree Ordinance, or provide compensation for their loss.

City of Pacifica Zoning Codes

Conformance: Public facilities like pipelines are permitted in each district that the pipeline traverses. The project pipelines and water tank required a building permit and a Conditional Use Permit from the City pursuant to Section 9-4.2101 (b)(3). The project pipeline from the pump station to the 20 inch abandoned force main sleeve required a Coastal Development Permit from the City. Both of these permits have already been obtained by the NCCWD.

h. Visual Resources

The proposed recycled water distribution system consists of underground pipelines, pumps at the Calera Creek Water Recycling Plant, and a water tank that would be located on Gypsy Hill next to an existing potable water tank. The Gypsy Hill pipeline would not affect a scenic vista as the pipeline would be installed underground within existing NCCWD easements and road rights-of-way. Gypsy Hill is not a scenic vista. The new water tank would not be visible from any off-site areas. However, the installation of the pipeline requires vegetation clearing of the easement and an additional 10 feet on either side to allow construction equipment access. The additional 10 feet could result in the removal or trimming of branches or roots of up to 30 trees, four of which qualify as heritage trees according to the City of Pacifica's Heritage Tree Ordinance. The project requires a Development permit from the City, which will include the preparation of a Tree Protection Plan. The City will determine whether additional trees will need to be planted as part of the Tree Protection Plan required by the Heritage Tree Ordinance. Since portions of the pipeline alignment can be seen from adjacent residences, tree removal or trimming of branches or roots would result in a visual change. However, the change is not considered significant as an existing overhead powerline detracts from the visual character in the easement area and the majority of the affected trees are interspersed along the pipeline route between Gypsy Hill Road and Clarendon Road, a distance of about 500 feet (there are four trees considered Heritage by the City of Pacifica's Heritage Tree Ordinance along this distance.)

The Gypsy Hill tank site has been used by the NCCWD as a tank site for years. The new water tank will measure 55 feet in diameter and 28 feet in height. The tank will not require the removal of any existing vegetation or trees as the site is currently devoid of vegetation. Due to the presence of tall trees surrounding the tank site, the new water tank will not be visible from any off-site areas, except perhaps from the water tank access road off Gypsy Hill Road. Therefore, the impact would be less than significant. Pipelines to connect the water tank with the CCWRP will be located underground and once placed will not be visible. Disturbed areas will be reseeded after construction is complete. This tank will be fitted with five emergency lights which will be manually controlled and only used in emergency situations.

Highway 1 (SR-1) is not a State Scenic Highway in this area (the State Scenic highway designation in San Mateo County is from the Santa Cruz County line to South City limits of Half Moon Bay and does not extend further north beyond Half Moon Bay. http://www.dot.ca.gov/hq/LandArch/scenic/schwy1.html). No part of the proposed recycled

water distribution system would be viewable from a state scenic highway once construction is finished. Construction equipment (backhoe, etc.) would create a minor, temporary aesthetic impact. This does not constitute substantial damage to scenic resources.

As stated above, up to four trees considered Heritage under the City of Pacifica's Heritage Tree Ordinance may be removed in the pipeline easement as a result of this project. These trees are not considered scenic resources, since they are not within the viewshed of a state scenic highway.

Visual impacts related to the construction of the pipelines for the water distribution system would be construction related, and thus temporary. Therefore, the project would not significantly degrade the existing visual character or quality of the site and its surroundings.

Emergency lighting is required at the Gypsy Hill water tank site, but the lights would only be used when needed by workers during emergency conditions. Views to the tank from off-site locations would be blocked by topography, the thick stand of eucalyptus and the newly constructed three-million gallon potable water tank. Therefore, the project would not result in a permanent change in daytime or nighttime views, and would not require mitigation to reduce or avoid impacts to visual resources.

i. Noise

Operational Impacts

Operation of the pump station, water tank and pipeline would not change the ambient noise environment because these facilities do not create noise when in operation. Since there is no operational noise from the project, no mitigation is necessary. In addition the water distribution lines, pumps at the CCWRP, and water tank at Gypsy Hill will not be a source of ground borne vibration or ground borne noise levels.

Construction Impacts

The project will only produce substantial noise during the construction phase which is a temporary impact; thus it will not expose people in the community to permanently excessive noise levels. Residents that live near the pipeline project site will be subjected to construction noise for a period of up to one month. The City of Pacifica regulates construction noise through the building permit process which limits the hours of construction activities to weekdays (Monday through Friday) from 7:00 am to 7:00 pm and on weekends (Saturday and Sunday) from 9:00 am to 5:00 pm.

Table IV-2 shows typical noise levels of construction equipment at a distance of 25 feet. Most of the construction noise will be generated by a backhoe that will be used for trenching to install the transmission and distribution pipelines. As is shown in Table III-2, a backhoe is not expected to exceed 99 dBA at a distance of 25 feet. There are only a few instances where there are residences near the pipeline corridor as depicted in Figure II-2. And in these areas, no residences are within 25 feet of the pipeline easement. Thus, under the worst case scenario, the nearest sensitive receptor will be subject to about a 20 dBA increase in noise during daytime hours when the backhoe is running for a period of about one month. The noise increase may be less depending on the type of noise muffling devices the machinery possesses, and the type of windows that are present on the residences. Furthermore, construction will be limited to weekdays (M-F) from 8:00 a.m. to 6:00 pm in areas near residences.

Table III-2. Typical Noise Levels of Construction Equipment

Equipment	Noise Levels at 25 Feet (dB)
Backhoes/Grade-all	78-99
Loaders	78-90
Dump Trucks	89-100
Cement Trucks	89-100
Chain Saws	90-100
Pavement Breakers	82-92
Jackhammers	88-103
Pile Drivers	100-110
Pumps*	75-77
Generators*	77-89

Source: Santa Clara Valley Water District, Matadero/Barron Creeks Remediation Project, Screen Check DEIR, August 2001.
*Source: USEPA, 1971, 50 foot estimates (dB) + 6 dB for distance halving.

j. Environmental Justice

No disproportionately high or adverse environmental or human health effects on minority or low-income communities have been identified for the proposed action at the project area. Therefore, there are no environmental justice impacts as a result of the implementation of this project.

k. Transportation and Traffic

The project is a public works project and will not increase or decrease traffic or otherwise affect vehicle trips after construction. Construction of the water tank that will require 70 new truck trips over a 30-day period is not substantial (probably no more than five new truck trips per day, thus will not cause a change in any level of service standard established by the San Mateo County Congestion Management Agency.

In addition, there may be a short-term local impact on traffic during construction if construction of a segment of new pipeline requires traffic controls. In such a case, a traffic management plan will be prepared by the contractor hired to install the pipe. There will be no impact on Highway 1 during construction, so the current LOS D would not be exceeded. Emergency and police vehicle access will be allowed during construction.

The proposed project will result in temporary and very minor traffic increases associated with workers traveling to and from the worksite over the duration of the construction period as well as construction related trucks going to and from sites. The primary construction areas include the NCCWD Gypsy Hill property where the new water tank will be constructed, and the local roadways where a pipeline will be installed between Clarendon Road and the NCCWD Gypsy Hill property and the CCWRP where the pump station will be constructed. These are not congested areas that will be impacted by the small number of construction workers and vehicles involved in the construction project.

The project will result in limited increases in traffic on vicinity roads for the approximately one year construction period. A traffic management plan will be prepared by the construction contractor to deal with possible traffic reroutes and truck route (as necessary) during the construction process.

Given the temporary and short-term duration of the activities, increased traffic is not considered significant. The project does not require any changes to roadway design nor will it permanently

generate increased vehicle trips or traffic congestion. The project will conform to all City of Pacifica codes and regulations governing working in the City's roadways.

The project will not result in inadequate emergency access. The project when completed will be completely underground, except for the water tank which will not prevent emergency access to the site.

Construction workers building the water tank will need to park at Gypsy Hill. According to the NCCWD the site has adequate parking for the construction workers. Since the project does not need additional parking spaces after the construction phase, no changes to long-term parking capacity will occur.

The project will not conflict with adopted alternative transportation plans. If construction work is required to install the pipeline happens to block a bus turnout or bike lane, the traffic management plan prepared by the construction contractor will assure that an alternative turnout/bike route is provided during the construction period.

l. Recreation

The project will result in the construction of a water pump station, a new recycled water tank and pipelines to provide recycled water to facilities within the City of Pacifica. It will not cause an increase in population or in the use of existing neighborhood or regional parks or recreational facilities, nor result in substantial physical deterioration to any recreational facilities. Therefore, the project will have no impact on these recreational resources.

The project does not propose the construction or expansion of any recreational facilities. As a result, there will be no adverse physical effect on the environment resulting from the alteration or creation of any new or existing facilities.

m. Indian Trust Assets

There are no Indian trust assets in the project area and therefore no impact to ITA from the proposed action.

n. Cumulative Impacts

There would be no significant cumulative impacts from the proposed action since this project is not facilitating growth.

15. NO ACTION ALTERNATIVE

As described in Section II. A. under the No Action Alternative, the NCCWD would not receive American Recovery and Reinvestment Act (ARRA) funding for the project. If ARRA funding is not available, the project could be delayed until another funding source is found which could be up to ten years. Delaying the project would delay all environmental consequences described in Section III. B.1. By then, the consequences may change since the environment and/or project could have changed. If no additional funding if available, then the project would not be constructed at all and all identified impacts would be eliminated.

C. CONSULTATION AND COORDINATION WITH OTHER AGENCIES

San Francisco Bay Regional Water Quality Control Board

The San Francisco Bay RWQCB has jurisdiction over the City of Pacifica. The mission of Regional Water Quality Control Boards (RWQCBs) is to develop and enforce water quality objectives and implementation plans that will best protect the beneficial uses of the State's waters, recognizing local differences in climate, topography, geology and hydrology. Regional Boards develop "basin plans" for their hydrologic areas, issue waste discharge requirements, take enforcement action against violators, and monitor water quality. RWQCBs also review and issue, waive, or deny Section 401 Water Quality Certification for projects requiring Corps Section 404 permits for fill of wetlands and other Waters of the U.S. Section 401 refers to the section of the Clean Water Act that gives states the authority to certify that a proposed activity is in conformance with state water quality standards. Requirements of the San Francisco RWQCB would govern any wetlands disturbance or grading related to the proposed wastewater recycling project.

California Department of Fish and Game (CDFG)

The mission of CDFG is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend for their ecological values and for their use and enjoyment by the public. Provisions of the California Endangered Species Act (CESA) protect state-listed threatened and endangered species. The Fish and Game Commission is charged with establishing a list of endangered and threatened species. CDFG regulates activities that may result in "take" of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code, but CDFG has interpreted "take" to include the killing of a member of a species which is the proximate result of habitat modification. Implementation of the conservation measures contained in the USFWS Biological Opinion which are listed in Section II. B. 5 of the EA, would ensure that the endangered species issues (California Red-legged Frog and San Francisco Garter Snake) are addressed.

Activities that result in the diversion or obstruction of the natural flow of a stream, or substantially change its bed, channel, or bank, or utilize any materials (including vegetation) from the streambed require that the project applicant enter into a Streambed Alteration Agreement with CDFG, under section 1600-1603 of the California Fish and Game Code. The CDFG potentially extends the definition of stream to include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams mapped on USGS quads, and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. It is not expected that the proposed project will result in Streambed Alteration, thus no 1601 permit is necessary.

U.S. Fish and Wildlife Service/National Marine Fisheries

The Federal Endangered Species Act (FESA) establishes a broad public and federal interest in identifying, protecting and providing for the recovery of threatened or endangered species. The Secretary of the Interior and the Secretary of Commerce are designated in the FESA as responsible for identifying endangered and threatened species and their critical habitat, carrying out programs for the conservation of these species, and rendering opinions regarding the impact of proposed federal actions on listed species. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) are charged with implementing and enforcing the FESA. USFWS has authority over terrestrial and continental aquatic species,

and NMFS has authority over species that spend all or part of their life cycle at sea, such as salmonids.

Section 9 of FESA prohibits the unlawful "take" of any listed fish or wildlife species. Take, as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such action." The USFWS regulations define harm to mean "an act which actually kills or injures wildlife." Such an act "may include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR § 17.3). Take can be permitted under FESA under sections 7 and 10. Section 7 provides a process for take permits for federal projects or projects subject to a federal permit, and Section 10 provides a process for incidental take permits for projects without a federal nexus. The ESA does not extend the take prohibition to federally listed plants on private land, other than prohibiting the removal, damage or destruction of such species in violation of state law.

The USFWS also oversees the implementation of the Migratory Bird Treaty Act of 1918, which prohibits the destruction or possession of individual birds, eggs or nests without a scientific collecting or special purpose permit from the Service. The USFWS is related to the project because of the potential impact of water flow reduction on California Red Legged Frog and San Francisco Garter Snake habitat. The U.S. Environmental Protection Agency submitted a request for formal consultation to the USFWS in June 2008 for the WRP. The request was accompanied by a Biological Assessment (BA) that was prepared for the NCCWD. The project that was described in the BA is the same project described in this EA. The USFWS issued a Biological Opinion on March 11, 2009 that concluded "that the Pacifica Recycled Water Project, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog or San Francisco garter snake." The determination was based on the following: "(1) the relatively small amount of upland habitat available to red-legged frogs and garter snakes that will be temporarily disturbed; (2) a Service-approved biologist that will monitor work within the proposed action area; and (3) the conservation measures that will be implemented to avoid, minimize, and compensate for effects to these species."

On August 13, 2009, Reclamation requested that the USFWS concur that no additional Section 7 consultation with Reclamation would be necessary since the Service had already consulted with the EPA on this project. On November 6, 2009, the USFWS concurred that no additional Section 7 consultation with Reclamation is necessary.

U.S. Army Corps of Engineers (USACE)

The USACE works to provide protection of the nation's aquatic environment through the regulation of activities in waters of the United States under the federal Rivers and Harbors Act and the Clean Water Act. Section 10 of the Rivers and Harbors Act requires permits for any work or structures in navigable waters of the United States, including wetlands within or adjacent to these waters. Both dredging and filling are regulated activities under the Act. Navigable waters are defined as those waters that are subject to the ebb and flow of the tide, or that are presently, have been, or may be used for transport of interstate or foreign commerce.

The Clean Water Act is a broad statute with the goal of maintaining and restoring waters of the United States. Among many provisions for the control of water pollution, the Clean Water Act also requires permits for filling of or discharge of dredged materials into waters of the United States. Section 404 of the Clean Water Act establishes a permit program for the discharge of fill or dredged material into waters of the United States. Waters of the United States include navigable waters, interstate waters, and all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries of any of these

waters, and wetlands that meet these criteria or that are adjacent to any of these waters or their tributaries.

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